

**EMERGENCY RULE TO IMPLEMENT MEASURES
TO PROHIBIT ENTRY OF NEW VESSELS TO THE
DIRECTED FISHERY FOR PACIFIC WHITING IN
THE
EXCLUSIVE ECONOMIC ZONE
OFF THE WEST COAST IN 2007**

ENVIRONMENTAL ASSESSMENT AND REGULATORY IMPACT REVIEW

**PREPARED BY:
DEPARTMENT OF COMMERCE
NATIONAL MARINE FISHERIES SERVICE
NORTHWEST REGION**

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Cover Sheet
**Emergency Rule to Implement Measures to Prohibit Entry of New Vessels
to the Directed Fishery for Pacific Whiting
in the Exclusive Economic Zone off the West Coast**

**Environmental Assessment and
Regulatory Impact Review**

Prepared by: Northwest Region, National Marine Fisheries Service (NMFS)

Abstract: The Pacific Fishery Management Council (Council) has submitted a request that NMFS promulgate an emergency rule to prohibit participation in 2007 in the shore-based, catcher/processor, and mothership sectors of the fishery by any vessel that has no sector-specific history of participation prior to January 1, 2007. The Council's proposal is intended to address conservation and management concerns that would be expected to result if such new entry were to occur in 2007. While the emergency rule is in effect, the Council expects to complete an amendment to its Groundfish Fishery Management Plan (FMP) that will address fishing capacity issues for the long-term in the Pacific whiting fishery so that the fishery may continue to harvest the optimum yield, while preventing overfishing, minimizing unavoidable bycatch, and maintaining healthy and stable fishing communities. In addition, NMFS proposes two exceptions to the groundfish limited entry permit regulations in the interest of fairness to participants. One would allow disaggregation of a permit that is the result of aggregation of several permits in 2006 by a party anticipating entering the whiting fishery in 2007. The other would allow a party to re-transfer a permit that was inadvertently transferred to a "prohibited" vessel (i.e., one not eligible to participate in the groundfish fishery).

This environmental assessment has been prepared to provide NOAA decision makers and the public with the information and analysis used to determine that the proposed action is consistent with the Magnuson-Stevens Act and other applicable law and that the analysis of alternatives meets the requirements of the National Environmental Policy Act (NEPA). This EA incorporates by reference portions of the Final Environmental Impact Statement prepared by the Pacific Council to evaluate the Proposed Acceptable Biological Catch and Optimum Yield Specifications and management Measure for the 2007-2008 Pacific Coast Groundfish Fishery and Amendment 16-4: Rebuilding Plans for Seven Depleted Pacific Coast Groundfish Species (NMFS, 2006).

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1.0 INTRODUCTION

1.1 Summary

The Pacific whiting (*Merluccius productus*, also known as hake) fishery in the EEZ off the West Coast is managed under the Pacific Coast Groundfish Fishery Management Plan (Groundfish FMP or FMP), which was developed by the Pacific Fishery Management Council (Council). Regulations to implement the FMP are found at 50 CFR Part 660.

At its March 9, 2007, meeting, the Council voted to submit to NMFS a request that NMFS issue an emergency rule to prohibit participation in 2007 in the shore-based, catcher/processor, or mothership sector of the whiting fishery by any vessel that has no sector specific history of participation in the fishery prior to January 1, 2007, under authority of section 305 (c) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This combined environmental assessment and regulatory impact review has been prepared to analyze that proposal. This analysis will be part of the record in considering whether to approve the Council request.

Summary of Environmental Impacts of the Preferred Alternative

The proposed action is expected to have the following impacts:

The Pacific whiting (whiting) stock is expected to remain at the level projected in the Council's determination of U.S. optimum yield and specification of harvest limits and conservation and management measures for 2007, consistent with the procedures of the Groundfish FMP. At this level, the stock will be in a range between the target management level and the minimum spawning stock biomass under the overfishing control rules of the FMP. The yield from the fishery (in terms of amount of product per fish caught and value of the catch) is expected to be higher than under the no action alternative because the action is expected to reduce the risk of excessive whiting fishing early in the season, when the quality of the fish is lower.

Stocks of other species taken incidental to Pacific whiting will remain at the levels projected by the Council in its determination of allowable harvest levels consistent with the procedures in the Groundfish FMP. For some species of rockfish that are overfished, this action is expected to provide additional protection compared to the no action alternative because it would reduce the risk of excessive bycatch of rockfish in fishing for whiting early in the fishing season, when incidental catch rates for rockfish are higher. Without additional entry into the fishery, there is less likelihood of an "accelerated race for fish" that could result in less care being taken to avoid areas in which rockfish bycatch would be higher.

Species of salmon (some of which are categorized as threatened or endangered under the

Endangered Species Act) will be protected from excessive takes as the proposed action is expected to reduce the likelihood of intensive fishing early in the season. Salmon bycatch rates are much higher early in the year than later in the year.

Other species, such as marine mammals, sea birds, and sea turtles, found in the area of the whiting fishery would not be expected to be affected by the proposed action.

The proposed action will have beneficial effects on current participants in the Pacific whiting fishery and on participants in other groundfish fisheries. Without this action, it is fairly certain that there would be additional entry into the fishery, meaning greater competition for the available harvest (the U.S. whiting OY is reduced by 10% from the 2006 harvest level) and a greater likelihood of an “accelerated race for fish.” This would be expected to result in early closure of the directed whiting fishery, which in turn could lead to idle capacity (for those who do not have the ability to shift to other fisheries or other groundfish sectors) or excess capacity shifting to other groundfish fisheries. Such a shift would exacerbate the economic difficulty being experienced in those non-whiting sectors due to severe constraints on fishing levels and areas available for fishing. In one possible scenario, the no action alternative would result in rockfish bycatch limits for the groundfish fisheries being exceeded in the whiting fishery at levels that would require additional reductions in other groundfish fishing sectors targeting healthy groundfish stocks.

In addition to approving the Council’s request for emergency action, the action also addresses two permit administration issues indirectly associated with the rule. In the first case, the action will allow persons who invested in 2006 and 2007 by aggregating groundfish trawl limited entry permits in anticipation of entry to the whiting fishery in 2007 to disaggregate those permits. In the second case, the action will allow a person who transferred a permit to a vessel that was found ineligible to participate in the groundfish fisheries to re-transfer that permit to an eligible vessel. These actions will relieve financial harm to the parties involved.

1.2 History of the Action

The Council originally considered this issue and in September 2006 adopted a proposal for emergency action to prevent new entry into the Pacific whiting fishery in 2007. The Council indicated conservation concerns that could arise from an “accelerated race for fish” caused by new entry of American Fisheries Act-qualified vessels (AFA vessels) to the fishery. In such circumstances, there could be excessive harvest of whiting, greater bycatch of overfished rockfish, and higher levels of incidental catch of endangered and threatened salmon in the early season. The Council also noted its concern that new entry of AFA vessels could result in early achievement of the U.S. directed harvest whiting quotas, leaving West Coast-based vessels facing no fishing or very limited fishing while the AFA vessels could return to the rationalized Alaska pollock fisheries in which they also had an interest. However, the Council proposal would only have prohibited AFA vessels from entry into the fishery for the first time in 2007, and only if they

did not have a history of involvement in the fishery prior to 2006. Other non-AFA vessels could still have entered the fishery.

In a letter of January 11, 2007, the Northwest Regional Administrator (RA) advised the Council that he denied the Council's request for an emergency rule. The letter noted that the documentation indicated that the Council action was intended to address actual or potential harm to West Coast fishers from the American Fisheries Act (AFA), but that the earlier closure in 2006 than in 2005 of the whiting shoreside fishery was due to new participation by both AFA vessels and non-AFA vessels. While acknowledging that new market conditions were likely to attract additional vessels, the RA pointed out that the proposed action would have denied new entry to a selected category of vessels (i.e., AFA vessels) but not all vessels. The RA noted that the guidelines for the use of emergency rules call for use of notice-and-comment procedures when there are controversial actions with serious economic effects, except under extraordinary circumstances. Therefore, the proposal, as with other allocation decisions, would more appropriately be handled through the Council's full rulemaking process.

The RA subsequently advised the Council on February 13, 2007, that if it were to submit a proposal that dealt more broadly with the issue of conservation risks and management problems due to potential new entry of any new vessels into the directed whiting fishery, NMFS would review that proposal on its own merits. NMFS would continue to be concerned if the request based the proposed action on the AFA rather than on the Magnuson-Stevens Act.

The Council discussed the issue at its meeting March 9, 2007, including the history of the issue, its earlier action, NMFS' rejection and indication of a possible remedy, and alternatives available to the Council. The Council took comments from its advisors as well as from the public.

In addition to these factors that were presented in the 2006 Council emergency rule request, there were four new pieces of information presented at the March 2007 Council meeting that exacerbated their concern about an increased race for fish. First, the price for whiting continues to increase to unprecedented levels, ex-vessel prices have increased from \$77 per ton in 2004 to \$137 per ton in 2006--nearly doubling since 2004, and increasing by over 22% compared to 2005. Industry projections for 2007 are that prices will continue to increase to over \$176 per ton. Second, the U.S. OY of whiting was reduced by 10% for the 2007 season compared to 2006. Third, because of higher than projected rockfish bycatch rates, the Council took action in March 2007 that placed more severe constraints on non-whiting groundfish fishing. Fourth, the quota for Alaskan Pollock was reduced this year. All of these recent changes increase the chance of an accelerated race for fish: the first by making entry more lucrative for additional vessels, the second by constraining supply of whiting and leading to more pressure among vessels to quickly capture the more limited supply of whiting, and the third and fourth by increasing the relative attractiveness of entering the whiting fishery this year.

Faced with this information, the Council adopted and submitted a proposal to address the problem beginning in 2007 by (1) prohibiting participation in either the shore-based, catcher/processor, and mothership sectors of the fishery by any vessel that has no sector-specific history of participation prior to January 1, 2007; and (2) committing the Council to complete Amendment 15 to its Groundfish Fishery Management Plan (FMP) to address their concern over increased participation by AFA vessels for the long term, consistent with the Magnuson-Stevens Act, the AFA, and other applicable law. The Council's submission includes substantial documentation supporting its concerns and the risks that arise if no action is taken to prevent entry of new fishing capacity in the directed whiting fishery in 2007.

It should also be noted that the Council is in the midst of developing a major amendment to the Pacific Groundfish Fishery Management Plan for purposes of rationalizing the trawl sector primarily through the use of individual fishing quotas (IFQs). For the whiting sectors, it is expected that the amendment will lead to the use of IFQs or implementation of fishery co-ops. The goal is to have this amendment implemented in 2010.

2.0 PROPOSED ACTION

2.1 Purpose and Need

2.1.1 Anticipated Conditions in 2007 Without Action

The Council is concerned that, without action, there is a high likelihood of new entry into the directed whiting fishery. The conditions in the fishery have become quite attractive as the ex-vessel prices have increased substantially in the presence of substantially increased market prices for processed headed and gutted whiting, increased prices for fillet products, and declining pollock quotas. (In 2006 the total allowable catch for Pollock in all areas off of Alaska was 15.8 million tons; the North Pacific Council has recommended a 2007 combined total allowable catch of 14.8 million tons.) These increased prices and declining pollock quotas are attracting new entrants to the catcher-processor sector, the mothership sector, and the shore-based sector of the whiting fishery. In addition, new shore-based processors entered the fishery in 2006 and additional shore-based processors may enter the business in 2007.

One of the major concerns is the prospect of the entry of vessels from Alaska (especially those associated with the AFA), where the pollock quota is declining. Current conditions in the whiting and pollock fisheries could attract vessels that are suitable for the whiting fishery and that have permits that would allow them to shift operations to the West Coast on a seasonal basis without harm to their fishing operations in Alaska. New entry, especially if the vessel(s) were to engage in fishing early in the season, would put considerable pressure on all sectors. For example, members of the Pacific Whiting Conservation Cooperative (which is composed of catcher-processors) have testified to the Council about how a new entrant would be disruptive to present operations and may lead to more intensive fishing early in the season. The Cooperative

has maintained a considerable degree of stability in the fishery by having its members stretch out the fishing opportunity during the year, with a desire to target the fish when the yields are high and bycatch is low, which generally occurs later in the season. The Cooperative also has been instrumental in sharing fishing information to avoid rockfish bycatch and stay within bycatch limits.

With new entry into the whiting fishery, there may be effects on other groundfish fisheries. If there were more entry, whether by AFA vessels or others, there would be a greater likelihood of more intensive fishing early in the season and achievement of catch limits early in the season. While AFA vessels would then be able to shift to Alaska fisheries, the other vessels would be more likely to engage in fishing for other groundfish, putting additional pressure on those stocks. It also is relevant that the catch limits for Pacific whiting for different sectors are lower in 2007 than they were in 2006, and thus more fishing capacity exerted earlier in the year will further increase the likelihood of early achievement of the catch limits.

2.1.2 Conservation Concerns

2.1.2.1 Pacific Whiting

There is no immediate conservation concern for Pacific whiting; the stock is well monitored and assessed annually so that annual quotas can be established for U.S. and Canadian fisheries consistent with the annual stock assessment. The annual catch limits are designed to prevent overfishing. The U.S. Optimum Yield for 2007 is 242,591 mt (not including tribal fisheries), down from about 269,000 mt in 2006. It should be noted, however, that whiting appear to be in a general trend of declining stock size; there appears to be a high likelihood of a further decrease in U.S. OY in 2008. The U.S. catch reached 260,000 mt in 2005, up from a low of 132,000 mt in 2002 when the stock was recovering from an overfished condition. Year class trends suggest that the stock is still heavily comprised of the 1999 year class, with near average recruitment from the 2003 and 2004 year classes. There is no indication of another strong year class emerging. The available harvest will be lower for all directed Pacific whiting fishing sectors, regardless of the number of participants. An increase in the number of participants may increase the likelihood of incorrect projections of dates on which the harvest quotas will be reached, with a moderate risk of fishing in excess of those quotas. This could exacerbate the problem of declining stock size.

There is a prospective “waste” issue for whiting. The yield per fish in usable meat for surimi and the marketability of the fish for direct consumption both improve as the fish recover from spawning in the spring. This is why the cooperative vessels generally focus on fishing later in the season. To the extent new vessels enter the fisheries and promote earlier fishing, there is likely to be less production of whiting products and less revenue and value from the fishery.

2.1.2.2 Rockfish Species

A serious concern is the impact of intensive, early-season fishing on other marine resources, especially overfished rockfish species. Canary, darkblotched and widow rockfish are among the non-target species taken as bycatch in the whiting fisheries. All are listed as overfished and have recently revised rebuilding plans in place. Development of these plans was difficult; implementation of the plans has been more so. The Council has developed an elaborate and detailed “score card” system by which the bycatch projected to be caught by different fishery sectors is described in an attempt to balance between competing sectors and promote optimum overall use of the resources. Given the overfished status of canary, darkblotched, and widow rockfish and the very low rates of spawning success and stock rebuilding, only incidental catches of these species are permitted and the allowances are very low for virtually all sectors.

The groundfish fishery participants are trying very hard to avoid these overfished stocks to ensure that directed fishing on healthy stocks will not be severely curtailed due to achievement of bycatch limits. There are tight limits on bycatch for these species, and especially for canary rockfish, overall for all groundfish fisheries, and for the whiting fisheries separately. Achieving any of the bycatch limits will close all whiting fishery sectors. While fishery participants have generally demonstrated great sensitivity to the need to avoid rockfish and minimize their bycatch, so that all benefit from the total allowable catch, it is known that even one “disaster” tow can have very severe consequences for all the vessels involved, and disaster tows would be more likely with a race to fish than with a more stable season. For perspective, in early June 2004 a vessel in the mothership sector had a single tow of fish estimated to contain 3.9 mt of canary, which is equal to 83 percent of the 2007 whiting fishery bycatch limit for non-tribal whiting fisheries. Further, it has been documented that bycatch of rockfish species occurs at a higher rate in the spring than later in the year. The concern is that, if there is an “accelerated race for fish” early in the season due to new entry, there will be greater emphasis on maximizing individual catches of the available whiting as quickly as practicable, with less concern for bycatch of rockfish. In turn, disaster tows could be more frequent and an early closure of the whiting fisheries would be likely. Indeed, if bycatch limits in the whiting fishery are greatly exceeded, there could be pressure to further constrain non-whiting fisheries to ensure that total bycatch does not exceed the levels set by the Council. This could be devastating to the non-whiting groundfish fisheries that have already declined to less than 50-60% of historic levels due to fishery controls to protect overfished stocks because of the long-term rebuilding plans for these overfished species. For example, canary rockfish is under a rebuilding plan that is projected to end in 2060. To keep on this schedule, overages in one year may lead to significant reductions in future years in order to maintain the current rebuilding plan.

2.1.2.3 Endangered and Threatened Salmon

The whiting fishery has been closely monitored for many years to determine the frequency of catches of endangered and threatened species of salmon incidental to the whiting catches.

The Council's concern is that, if there is more intensive fishing for whiting early in the season, there will be increased potential for salmon bycatch. Under the Endangered Species Act (ESA), NMFS has completed Section 7 consultations for the West Coast groundfish fisheries, and NMFS has concluded that the fisheries as prosecuted under the Groundfish FMP are not likely to jeopardize the continued existence of any listed species. However, in comments on the proposed rule for the 2007-2008 groundfish specifications, some noted that the incidental take of salmon in the whiting fishery exceeded the limit set in the most recent biological opinion and incidental take statement. NMFS responded that, over time, the bycatch of salmon had occasionally been higher but also occasionally been lower than the limits set in the biological opinion, and against the trend in better population status for the Evolutionarily Significant Units (ESUs) involved, this did not result in a jeopardy conclusion.

However, if the whiting fishery were to change in character, with more intensive fishing early in the season, the situation would have to be reevaluated. Salmon bycatch rates are much higher early in the year than later in the year. This is a matter of great concern. Additional capacity or associated effort in the fishery may lead to high salmon bycatch rates and additional capacity or effort may also make it difficult for NMFS to react in a timely way to unanticipated conditions in the fishery. For perspective, a coastwide salmon conservation zone for Pacific whiting fishery was implemented on August 26, 2005, midway into the 2005 season, by Emergency Rule because of high early season incidental take of salmon. The incidental take statement issued with the biological opinion resulting from an ESA consultation requires reinitiation of consultation if the fishery exceeds an 11,000-Chinook salmon annual bycatch amount. In early July of the 2005 fisheries, NMFS first saw data on higher-than-expected salmon bycatch rates. By the end of July, primary whiting season data indicated that the fishery would likely exceed a bycatch of 11,000 salmon in 2005. The best available information as of August 11, 2005 indicated the following numbers of Chinook salmon had been taken by the four whiting sectors participating in the 2005 primary whiting season: tribal-3,911 fish, non-tribal shore-based- 3,622 fish; non-tribal mothership- 2,143 fish and non-tribal catcher/processor-1,607 fish. If NMFS had had to conduct notice and comment rulemaking, the rule would not likely had been finalized until after the whiting fisheries had achieved their 2005 whiting quotas and the bycatch of ESA-listed salmon would have continued unabated during this time. Even with an emergency rule, NMFS was not able to restrict salmon fishing in the non-tribal fishery in a timely way as the shore-based fishery had achieved its whiting quota by August 18th.

2.1.2.4 Impacts on Established Fisheries

Intensive early fishing on whiting will result in early achievement of the harvest limit for the shoreside sector. This means that West Coast-based vessels that do not have access to Alaska fisheries or other stocks will be pushed into the tightly limited groundfish fisheries earlier than normal. In turn, the normal pace of groundfish catches will be accelerated and bimonthly vessel catch limits would likely be achieved earlier in each period. In a

accelerated race for fish, there also would be higher risk of exceeding bycatch limits for the established fisheries. At best, there would be short periods in which vessels would be forced to sit idle; at worst, the idle periods would be long, with serious disruption of processing facilities that are already under great economic pressure because of the severe cutbacks in groundfish fisheries the past 10 years.

2.2 Objectives

The objectives for this action are:

- To prevent conservation and management problems by preventing additional entrants into the Pacific whiting fishery off the West Coast in 2007

This means that the 2007 fishery would continue to be prosecuted by the three directed fishery sectors subject to the catch limits agreed to by the Council; that the whiting industry would continue to work together effectively in pursuing the fishery, such that there would be minimum risk of excessive fishing early in the season and there would continue to be industry cooperation to avoid bycatch of overfished rockfish and salmon; there would be no new entry to any sector of the directed fishery, which would reduce the likelihood of excessive competition for the available harvest and increase the likelihood that the Pacific whiting season will continue through the summer and into the fall; and there would not be an early closure of the Pacific whiting fishery and therefore there would be no significant increase in a shift of vessels from Pacific whiting fishing to fishing in other groundfish fishery sectors.

- To provide a period of stability during which the Council can complete amendment 15 to the Groundfish FMP to establish a long-term Pacific whiting fishery management strategy, which will likely include some form of limited entry or other fleet capacity management program as part of the overall trawl capacity management program

The Council is aware that it needs to, and is committed to completing Amendment 15 to the Groundfish FMP to deal with AFA vessels for the long term. The Council has previously established control dates (see 64FR66158, November 24, 1999, and 65FR55214, September 13, 2000) for prospective use in determining limited entry permit eligibility or establishing other controls on vessel capacity to protect Pacific Coast groundfish fisheries from harm caused by the AFA, consistent with the AFA and the MSA and other applicable law. The Council has indicated that it will expedite completion of Amendment 15 during the period the emergency rule is in effect. The Council had begun development of its amendment some years ago, but action was deferred due to other priorities (including dealing with determinations of overfishing as noted above and court directives). The Council did not anticipate that conditions in the whiting fishery (and outside the fishery) could change so substantially and rapidly that quicker action would be needed on this amendment. The Council is now prepared to complete Amendment 15, and has

already begun preliminary discussions at its March 2007 meeting, including obtaining the views

of its advisors and the public on options to consider and evaluate fully. It will reopen discussion of alternatives in the environmental assessment that was prepared in 2001; however, this cannot begin until April and final action could not be taken before late summer at the earliest. The emergency rule will provide the Council with time to complete the process while providing interim protection to West Coast fisheries with minimal harm to vessels that participated in the fishery in prior years.

Amendment 15, once implemented is expected to be replaced in 2010 by an IFQ program for the entire limited entry trawl fishery. Under this program, the whiting fishery is expected to be managed by IFQs or by a series of sector-based cooperatives. The emergency rule will aid the transition towards this IFQ system by freezing capacity at current levels, while the Council devotes its time to this long term project.

2.3 Pacific Whiting Fishery Conservation and Management Alternatives

2.3.1 Alternative 1: No action

Every assessment of potential management strategies includes a no action baseline against which other alternatives are compared. Under this alternative, NMFS would not take action at this time. This means that any vessel that wished could enter any sector of the Pacific whiting fishery in 2007.

2.3.2 Alternative 2: Implement the Emergency Rule (Proposed Action)

This alternative would implement the request of the Council and prohibit entry of new vessels into any sector of the Pacific whiting fishery in 2007 if it did not have a history of participation in that sector prior to January 1, 2007

2.3.3 Alternative 3: Implement a Prohibition of New Entry Only to the Harvesting Sectors of the Pacific Whiting Fishery (i.e., Shorebased and Catcher-Processor Sectors)

Under this alternative, the emergency rule would only prohibit entry of new vessels into the shorebased harvesting or catcher-processor sector of the Pacific whiting fishery in 2007. There would be no limit on entry to the mothership sector of the Pacific whiting fishery in 2007.

2.4 Alternatives Considered but not Analyzed Further

Implement Rules under Secretary of Commerce Authority Under the AFA

Under this alternative, the Secretary of Commerce would have used the authority of the American Fisheries Act to establish regulations to control entry into the Pacific whiting fishery by any AFA vessels. This alternative was considered but rejected. NMFS had previously indicated to the

Council that the potential problems that would arise with new entry to the Pacific whiting fishery were not limited to the prospect of AFA vessels entering the fishery. The problems were likely to arise with any new entry to the fishery. Further, use of Secretarial authority under the AFA would be more complex and take longer than the use of the emergency authority of the Secretary under the Magnuson-Stevens Act and the rule could likely not be implemented under the AFA in a time frame to be useful in 2007. Therefore, this alternative was rejected without further analysis.

3.0 DESCRIPTION OF THE WHITING RESOURCE AND THE AFFECTED ENVIRONMENT

3.1 Physical Characteristics of the Affected Environment

The coastal ocean off Washington, Oregon, and California is a biogeographic region that is collectively termed the Coastal Upwelling Domain (Ware and McFarlane 1989). The dominant fish species within this domain include northern anchovy, Pacific sardine, Pacific whiting (also called Pacific hake), Pacific mackerel, jack mackerel, Pacific herring, sablefish, and coho and Chinook salmon. Within this domain, are several smaller physical zones, including: a nearshore zone; a zone that includes the upper 10-20 m (5-11 fm) of the water column across the continental shelf and slope; and, a benthic zone with demersal habitats on the continental shelf, at the shelf break, and beyond the shelf break to depths of 1,500 m (820 fm). Each of these physical zones has unique circulation patterns that affect spawning and larval transport, and each is subject to different physical forces that leads to species-specific variations in growth, survival, and recruitment.

The Coastal Upwelling Domain is part of the California Current system. The California Current is a broad, slow, meandering current that moves toward the equator. The California current occurs from the shore to several hundred miles from land, and extends from the northern tip of Vancouver Island (50° north latitude) to the southern tip of Baja California (25° north latitude). In deep waters offshore of the continental shelf, the currents flow southward all year round; however, over the continental shelf, southward flows occur only in spring, summer, and fall. During winter months, the flow over the shelf reverses, and the water moves northward as the Davidson Current. The transitions between northward and southward flows on the shelf occur seasonally, in March/April and October/November thus are termed the "spring transition and fall transition." Another important feature of circulation within the Coastal Upwelling Domain is the deep, year-round, poleward-flowing undercurrent found at depths of 100 to 300 m (55 to 164 fm) over the outer shelf. This current seems to be continuous at least from Southern California (33° north latitude) to the British Columbia coast (50° north latitude).

Coastal upwelling is the dominant physical force affecting production in the Coastal Upwelling Domain. Upwelling off Washington and Oregon occurs primarily in continental shelf waters during the months of April to September, whereas upwelling can occur year-round off northern and central California. Upwelling also occurs in offshore waters through the action of Ekman pumping and through surface divergence in the centers of cyclonic eddies. The result of

upwelling is high production of phytoplankton from April through September fueled by the nearly continuous supply of nutrients, and a high biomass of copepods, euphausiids and other zooplankton during summer.

3.2 Biological Characteristics of the Affected Environment

3.2.1 Biology and Status Of Whiting

Pacific whiting range from Sanak Island in the western Gulf of Alaska to Magdalena Bay, Baja California Sur. They are most abundant in the California Current System (Bailey 1982; Love 1991; NOAA 1990). Smaller populations of whiting occur in several of the larger semi-enclosed inlets of the northeast Pacific Ocean, including the Strait of Georgia, Puget Sound, and the Gulf of California (Bailey et al.1982; Stauffer 1985). The highest densities of whiting are usually found between 50 and 500 m, but adults occur as deep as 920 m (503 fm) and as far offshore as 400 km (Bailey 1982; Bailey et al.1982; Dark and Wilkins 1994; Dorn 1995; NOAA 1990; Stauffer 1985). Whiting school at depth during the day, then move to the surface and disband at night for feeding (McFarlane and Beamish 1986; Sumida and Moser 1984; Tanasich et al.1991).

Coastal stocks spawn off Baja California in the winter. After spawning the mature adults begin moving northward and inshore, following the food supply and Davidson currents (NOAA 1990). Whiting reach as far north as southern British Columbia by fall. Older (age 5+), larger, and predominantly female whiting migrate into Canadian waters. During El Niño years, a larger proportion of the stock migrates into Canadian waters; this is believed to be due to intensified northward currents during the period of inactive migration (Dorn 1995). In the fall, whiting begin the southern migration to spawning grounds and further offshore (Bailey et al.1982; Dorn 1995; Smith 1995; Stauffer 1985).

Spawning occurs from December through March, peaking in late January (Smith 1995). Whiting are oviparous with external fertilization. Eggs of the whiting are neritic and float to neutral buoyancy (Bailey et al.1982; NOAA 1990). Hatching occurs in 5 - 6 days and within 3-4 months juveniles are typically 35 mm (Hollowed 1992). Juveniles move to deeper water as they get older (NOAA 1990). Females often mature at 3 - 4 years (34 - 40 cm,) and nearly all males are mature by 3 years (28 cm). Females grow more rapidly than males after four years; growth ceases for both sexes at 10 - 13 years (Bailey et al.1982).

Smith (1995) recognizes three habitats used by coastal whiting: a narrow 30,000 square km feeding habitat near the shelf break of British Columbia, Washington, Oregon and California populated 6-8 months per year; a broad 300,000 square km open-sea area of California and Baja California populated by spawning adults in the winter and embryos and larvae for 4-6 months; and a continental shelf area of unknown size off California and Baja California where juveniles brood (Bailey et al.1982, NOAA 1990). Adult Pacific whiting have been found to be cannibalistic. Pacific whiting and their associated prey varies by life stage with adults primarily feeding on

amphipods, clupeids, crabs, rockfish, squid; juveniles feeding on euphausiids; and, larvae feeding on copepod eggs, copepod nauplii, and copepods. In general, Pacific whiting is a very productive species with highly variable recruitment patterns (recruitment-the biomass of fish that mature and enter the fishery each year) and a relatively short life span when compared to most other groundfish species.

The coastal stock of whiting is currently the most abundant of the groundfish populations off the West Coast. The population is modeled as a single stock, but the U.S. and Canadian fishing fleets are treated separately in the stock assessment process in order to capture some of the spatial variability in whiting distribution. The whiting stock demonstrates significant variability in recruitment from year to year. Estimates of recruitment indicate very large year classes in 1980 and 1984, with secondary recruitment events in 1970, 1973, and 1977. The 1999 year class was the single most dominate cohort since the late 1980s and has in large part been the principal support of fishery catches during the last few years. Notwithstanding the large recruitments in 1980 and 1984, the biomass declined rapidly after 1984 (4.6-5.1 million mt) to the lowest point in the time series in 2000 (0.88-1.21 million mt). This long period of decline was followed by a brief increase to 1.68-2.13 million mt in 2003 as the 1999 year class matured. At the beginning of 2006, the spawning biomass is estimated to have been 1.18-1.60 million mt, or approximately 30.9%-38.0% of the unfished level. The stock is currently assessed annually to ensure that determinations of acceptable biological catch and U.S. OY are based on the most recent fishery data available. The most recent assessment considered two alternative models (base and alternative) for estimating stock size and productivity. That assessment indicates that the spawning stock biomass that produces the MSY-proxy catch under the base model was estimated to be 1.06 million mt (confidence interval is 0.96-1.14 million mt), while the equivalent estimate under the alternative model was 1.19 million mt (confidence interval 1.04-1.31 million mt), given current life history parameters. The estimated spawning potential ratio (SPR) for whiting has been above the proxy target of 40% for the history of the fishery. In terms of its exploitation status, whiting are presently below the target biomass level (40% of unfished biomass) but above the target SPR rate (40%).

The joint US-Canada Stock Assessment Review (STAR) panel met February 5-9, 2007, to review the Pacific whiting stock assessment prepared jointly by scientists from the NMFS Northwest Fisheries Science Center and the University of British Columbia Fisheries Centre. The STAR panel accepted two equally plausible assessment models that consider uncertainty in the relative depletion level and stock productivity. As in 2006, the amount of whiting that the hydroacoustic survey was able to measure relative to the total amount of Pacific whiting in the surveyed area (acoustic survey catchability coefficient, or q) was identified as a major source of uncertainty in the new stock assessment. Because of this uncertainty, two models were presented to bracket the range of uncertainty in q : the base model with a fixed value of $q=1$, representing the lower range of biomass and ABC/OY estimates; and the alternative model (using an informative prior) to arrive at $q=0.7$, which results in an upward scaling of both biomass and ABC/OY estimates. Uncertainty regarding the true value of q has been a major issue with whiting stock assessments in

recent years, and as a precautionary measure the Council has based whiting ABCs from the last several assessments on models where $q=1$.

The most recent assessment considered two alternative models (base and alternative) for estimating stock size and productivity. Using the base model, $q=1$, the whiting stock biomass at the end of 2006 was estimated to be at 36 percent of its unfished biomass and at 44 percent of its unfished biomass with the alternative model, $q=0.7$. That assessment indicates that the spawning stock biomass that produces the MSY-proxy catch under the base model was estimated to be 1.06 million mt (confidence interval is 0.96-1.14 million mt), while the equivalent estimate under the alternative model was 1.19 million mt (confidence interval 1.04-1.31 million mt), given current life history parameters. The estimated spawning potential ratio (SPR) for whiting has been above the proxy target of 40% for the history of the fishery. In terms of its exploitation status, whiting are presently below the target biomass level (40% of unfished biomass) but above the target SPR rate (40%). As no strong year classes have been observed since 1999, the whiting biomass is projected to decline in the near future. Data from the 2005 hydroacoustic survey suggested a moderately strong 2003 year class; however current recruitment estimates from fishery-dependent indices predict that the 2003 recruitment will be below the mean. Current estimates, while not validated with a hydroacoustic survey, predict larger 2004 recruitment than for surrounding years. If these year classes are stronger than currently projected, the recent downward trend in whiting biomass could stabilize.

Pacific whiting undertake an extended spawning migration during which the adults swim south to spawn in the southern California Bight in autumn and winter. Pacific whiting migrate from as far north as Vancouver Island to southern California, a distance of several thousand kilometers. The Pacific whiting fishery has historically occurred during the northern migration of adults. The northern migrating adults and the northward drift of larvae and juveniles takes place at depths where fish take advantage of the poleward undercurrent.

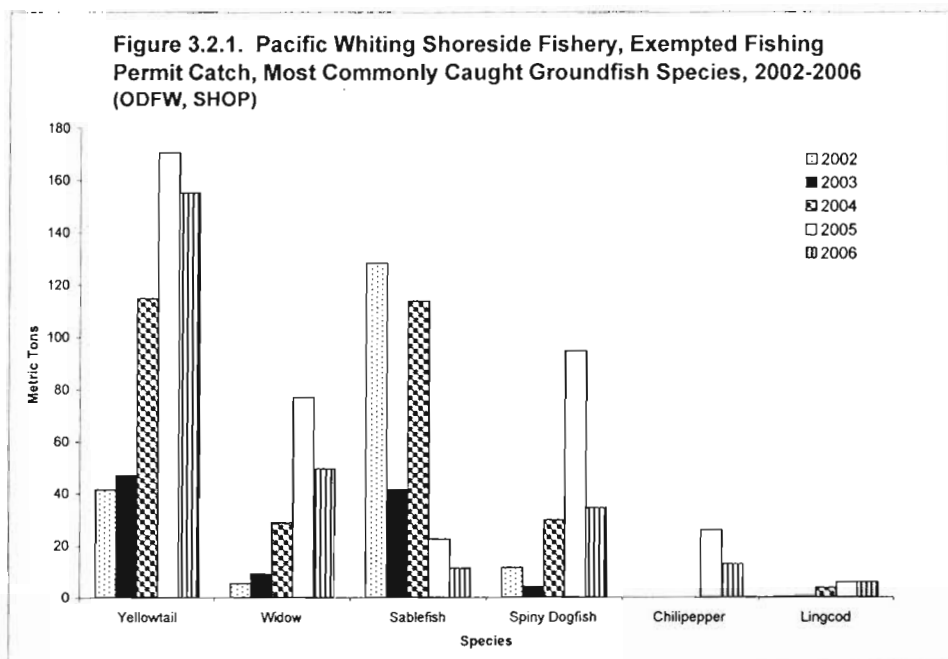
3.2.2 Biology and Status of Other Groundfish Stocks

Whiting is one of the more than 90 species of groundfish managed under the groundfish FMP. These species include over 60 species of rockfish in the family Scorpaenidae, 7 roundfish species, 12 flatfish species, assorted sharks, skates, and a few miscellaneous bottom-dwelling marine fish species. The groundfish species occur throughout the EEZ and occupy diverse habitats at all stages in their life history. Information on the interactions between the various groundfish species and between groundfish and non-groundfish species varies in completeness. While a few species have been intensely studied, there is relatively little information on most. Readers who are interested in further biological information including information on the status of the groundfish resources, are referred to Section 4.0 of the EIS (PFMC 2006) prepared for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery. Copies of the EIS can be obtained from the Pacific Fishery Management Council, by writing to 7700 NE Ambassador Place, Suite 200,

Portland, OR 97220-1384; or calling 503-820-2280; or viewing the internet posting at <http://www.pcouncil.org>. Appendix B2 to the final EFH EIS titled: The Pacific Coast Groundfish Fishery Management Plan, EFH Designation and Minimization of Adverse Impacts (NMFS, 2005), contains detailed information on the life histories of the groundfish species. A copy of the EFH EIS can be obtained by contacting the Sustainable Fisheries Division, Northwest Region, NMFS, 7600 Sand Point Way, NE, Seattle, WA 98115-0070; or viewing the internet posting at www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-Management/NEPA-Documents/index.cfm.

There is a large number of species taken incidental to whiting in the directed whiting fishery. More detail on these species is summarized below.

Yellowtail Rockfish (*Sebastes flavidus*): Yellowtail rockfish range from San Diego, California, to Kodiak Island, Alaska (Fraidenburg 1980; Gotshall 1981; Lorz, et al. 1983; Love 1991; Miller and Lea 1972; Norton and MacFarlane 1995). The center of yellowtail rockfish abundance is from Oregon to British Columbia (Fraidenburg 1980). Yellowtail rockfish are a common, demersal species abundant over the middle shelf (Carlson and Haight 1972; Fraidenburg 1980; Tagart 1991; Weinberg 1994). Yellowtail rockfish are most common near the bottom, but not on the bottom (Love 1991; Stanley, et al. 1994). Yellowtail rockfish adults are considered semi-pelagic (Stanley, et al. 1994; Stein, et al. 1992) or pelagic, which allows them to range over wider areas than benthic rockfish. Adult yellowtail rockfish occur along steeply sloping shores or above rocky reefs (Love 1991). They can be found above mud with cobble, boulder and rock ridges, and sand habitats; they are not, however, found on mud, mud with boulder, or flat rock (Love 1991; Stein, et al. 1992). Yellowtail rockfish form large (sometimes greater than 1,000 fish) schools and can be found alone or in association with other rockfishes (Love 1991; Rosenthal, et al. 1982; Stein, et al. 1992; Tagart 1991). These schools may persist at the same location for many years.



The yellowtail rockfish stock in the West Coast fishery is managed as two stocks separated at Cape Mendocino, California. The stock assessment of yellowtail rockfish was most recently updated in 2005. Yellowtail rockfish is considered to be a healthy stock with its biomass estimated to be above 40 percent of its unfished biomass in 2005.

Yellowtail rockfish is the most common groundfish species caught with Pacific whiting. In the past five years, the yellowtail rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 41 mt in 2002 with a catch rate of 0.0009 mt of yellowtail rockfish per mt of Pacific whiting to a high of 170 mt in 2005 with a catch rate of 0.0017 mt of yellowtail rockfish per mt of Pacific whiting. Yellowtail rockfish catch rates tend to be highest in ports in the north (Westport, Illwaco, and Astoria) than in the south. Catch rates for individual trips between 1999 and 2003 show that the highest interception occurs around Astoria Canyon and south of Cape Flattery (Weidoff and Parker 2004).

Widow Rockfish (*Sebastes entomelas*): Widow rockfish range from Albatross Bank off Kodiak Island to Todos Santos Bay, Baja California, Mexico (Eschmeyer, et al. 1983; Miller and Lea 1972; NOAA 1990). They occur over hard bottoms along the continental shelf (NOAA 1990) and prefer rocky banks, seamounts, ridges near canyons, headlands, and muddy bottoms near rocks. Large widow rockfish concentrations occur off headlands such as Cape Blanco, Cape Mendocino, Point Reyes, and Point Sur. Adults form dense, irregular, midwater and semi-demersal schools deeper than 100 m (55 fm) at night and disperse during the day (Eschmeyer, et al. 1983; NOAA 1990; Wilkins 1986). All life stages are pelagic, but older juveniles and adults are often associated with the bottom (NOAA 1990). Pelagic larvae and juveniles co-occur with yellowtail rockfish, chilipepper, shortbelly rockfish, and bocaccio larvae and juveniles off Central California (Reilly, et al. 1992).

Similar to other rockfish species, the biomass of widow rockfish has decreased steadily since the early 1980s, and recruitment during early 1990s is estimated to have been considerably smaller than before the mid 1970s. The reason for the lower recruitment during the period could be due to lower spawning stock biomass, but it could also be due to environmental conditions. Widow rockfish was declared overfished on January 11, 2001, because the stock was assessed and believed to be below 25 percent of its unfished biomass. A 2005 coastwide stock assessment and rebuilding analysis were completed for widow rockfish. The 2005 stock assessment estimated that the widow rockfish stock was at 31.1 percent of its unfished biomass in 2004. In retrospect, the 2005 stock assessment shows that the widow rockfish biomass may not have declined below the overfished species threshold of 25 percent of its unfished biomass as has been estimated in previous stock assessments.

Widow rockfish is one of the most common groundfish species caught with Pacific whiting. However, because of its overfished status, widow rockfish bycatch limits have been used to constrain the incidental catch. If a bycatch limit is reached, all commercial Pacific whiting fisheries are closed for the remainder of the year regardless of whether or not the Pacific whiting allocations have been reached. In 2006, the widow rockfish bycatch limit was 200 mt at the start of the season but was later revised to 220 mt. In the past five years, the widow rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 5 mt in 2002 with a catch rate of 0.0001 mt of widow rockfish per mt of Pacific whiting to a high of 76 mt in 2005 with a catch rate of 0.0008 mt of widow rockfish per mt of Pacific whiting (Jesse and Saelens 2007)

Sablefish (*Anoplopoma fimbria*): Sablefish, or black cod, are distributed in the northeastern Pacific ocean from the southern tip of Baja California, northward to the north-central Bering Sea and in the Northwestern Pacific ocean from Kamchatka, southward to the northeastern coast of Japan. Adults are found as deep as 1,900 m (1,039 fm), but are most abundant between 200 m (109 fm) and 1,000 m (547 fm) (Beamish and McFarlane 1988; Kendall, Jr. and Matarese 1987; Mason, et al. 1983). Adults and large juveniles commonly occur over sand and mud (McFarlane and Beamish 1983b; NOAA 1990) in deep marine waters. They were also reported on hard-packed mud and clay bottoms in the vicinity of submarine canyons (MBC 1987).

Sablefish is a precautionary zone species because the current biomass is below 40 percent but above 25 percent its unfished biomass. A coastwide sablefish stock assessment was prepared in 2005. The coastwide sablefish biomass was estimated to be at 35.2 percent of its unfished biomass in 2005. Projections indicate that the biomass is increasing and will be near 42 percent by 2008.

In the past five years, the sablefish catch in the Pacific whiting shoreside fishery has ranged from a high of 128 mt in 2002 with a catch rate of 0.0028 mt of sablefish per mt of Pacific whiting to a low of 11 mt in 2006 with a catch rate of 0.0001 mt of sablefish per mt of Pacific whiting. The

2000 sablefish stock assessment predicted a strong year class would be entering the fishery in 2001. An analysis of the 2001-2002 sablefish caught in the Pacific whiting shoreside fishery, revealed a large occurrence of 1-2 year olds. In 2003, a moderate catch of 3 year old sablefish was seen. As the sablefish age and move to deeper water, they are less available to the mid-water trawl gear used to catch Pacific whiting.

Spiny dogfish (*Squalus acanthias*): Spiny dogfish occur in temperate and subarctic latitudes in both the northern and southern hemispheres, ranging from the Bering Sea to Baja California (Allen and Smith 1988). Dogfish tend to migrate in large schools, and can travel long distances, feeding avidly on their journeys (Bannister 1989). The schools, numbering in the hundreds, exhibit north-south coastal movements and onshore-offshore movements. They also make diel migrations from near bottom during the day to near surface at night (NOAA 1990). Survey data indicate that most dogfish inhabit waters up to 350 m (191 fm).

Spiny dogfish has not been quantitatively assessed. In the past five years, the spiny dogfish catch in the Pacific whiting shoreside fishery has ranged from a low of 4 mt in 2003 with a catch rate of 0.0001 mt of spiny dogfish per mt of Pacific whiting to a high of 95 mt in 2005 with a catch rate of 0.0010 mt of spiny dogfish per mt of Pacific whiting.

Chilipepper Rockfish (*Sebastes goodei*): Chilipepper rockfish are found from Magdalena Bay, Baja California, Mexico, to as far north as the northwest coast of Vancouver Island, British Columbia (Allen 1982; Hart 1988; Miller and Lea 1972). Chilipepper have been taken as deep as 425 m (232 fm), but nearly all in survey catches were taken between 50 m (27 fm) and 350 m (191 fm) (Allen and Smith 1988). Adults and older juveniles usually occur over the shelf and slope; larvae and small juveniles are generally found near the surface. In California, chilipepper are most commonly found associated with deep, high relief rocky areas and along cliff dropoffs (Love, et al. 1990), as well as on sand and mud bottoms (MBC 1987). They are occasionally found over flat, hard substrates (Love, et al. 1990). Chilipepper may travel as far as 45 m (25 fm) off the bottom during the day to feed (Love 1991).

Chilipepper rockfish were last assessed in 1998 (Ralston, et al. 1998), at which time the stock was estimated to be at 46 to 61 percent of unfished biomass. Because the biomass is estimated to be above 40 percent of the unfished biomass, chilipepper rockfish is considered to be a healthy stock. Chilipepper rockfish catch is greatest in the California ports. In 2005, a high of 26 mt of chilipepper rockfish was taken with a catch rate of 0.0003 mt of chilipepper rockfish per mt of Pacific whiting, and a low of 13 mt in 2006 with a catch rate of 0.0001 mt of chilipepper dogfish per mt of Pacific whiting.

Lingcod (*Ophiodon elongatus*): Lingcod, a top order predator of the family Hexagrammidae, ranges from Baja California, Mexico, to Kodiak Island in the Gulf of Alaska. Lingcod are demersal at all life stages (Allen and Smith 1988; NOAA 1990; Shaw and Hassler 1989). Adult

lingcod prefer two main habitat types: slopes of submerged banks 10 m to 70 m (5 to 38 fm) below the surface with seaweed, kelp, and eelgrass beds and channels with swift currents that flow around rocky reefs (Emmett, et al. 1991; Giorgi and Congleton 1984; NOAA 1990; Shaw and Hassler 1989). Juveniles prefer sandy substrates in estuaries and shallow subtidal zones (Emmett, et al. 1991; Forrester and Thomson 1969; Hart 1988; NOAA 1990). As the juveniles grow they move to deeper waters. Adult lingcod are considered a relatively sedentary species, but there are reports of migrations of greater than 100 km by sexually immature fish (Jagiello 1990; Mathews and LaRiviere 1987; Matthews 1992; Smith, et al. 1990). Mature females live in deeper water than males and move from deep water to shallow water in the winter to spawn (Forrester 1969; Hart 1988; Jagiello 1990; LaRiviere, et al. 1980; Mathews and LaRiviere 1987; Matthews 1992; Smith, et al. 1990). Mature males may live their whole lives associated with a single rock reef, possibly out of fidelity to a prime spawning or feeding area (Allen and Smith 1988; Shaw and Hassler 1989).

A new stock assessment was prepared for lingcod in 2005 and lingcod was determined to be a healthy stock coastwide. However, the stock assessment estimates that the coastwide lingcod stock in 2005 is at 64 percent of its unfished biomass level, with the northern component of the stock (north of Cape Mendocino, CA) at 87 percent of its unfished biomass level and the southern component of the stock at 27 percent of its unfished biomass level. In the past five years, the lingcod catch in the Pacific whiting shoreside fishery has ranged from a low of 0.22 mt in 2002 with a catch rate of 0.000005 mt of lingcod per mt of Pacific whiting to a high of 6 mt in 2005 and 2006 with catch rates of 0.000060 of lingcod per mt of Pacific whiting. The change in incidental catch rates is consistent with the lingcod biomass increase since 2002.

3.2.3 Overfished Groundfish Species Other than Widow Rockfish

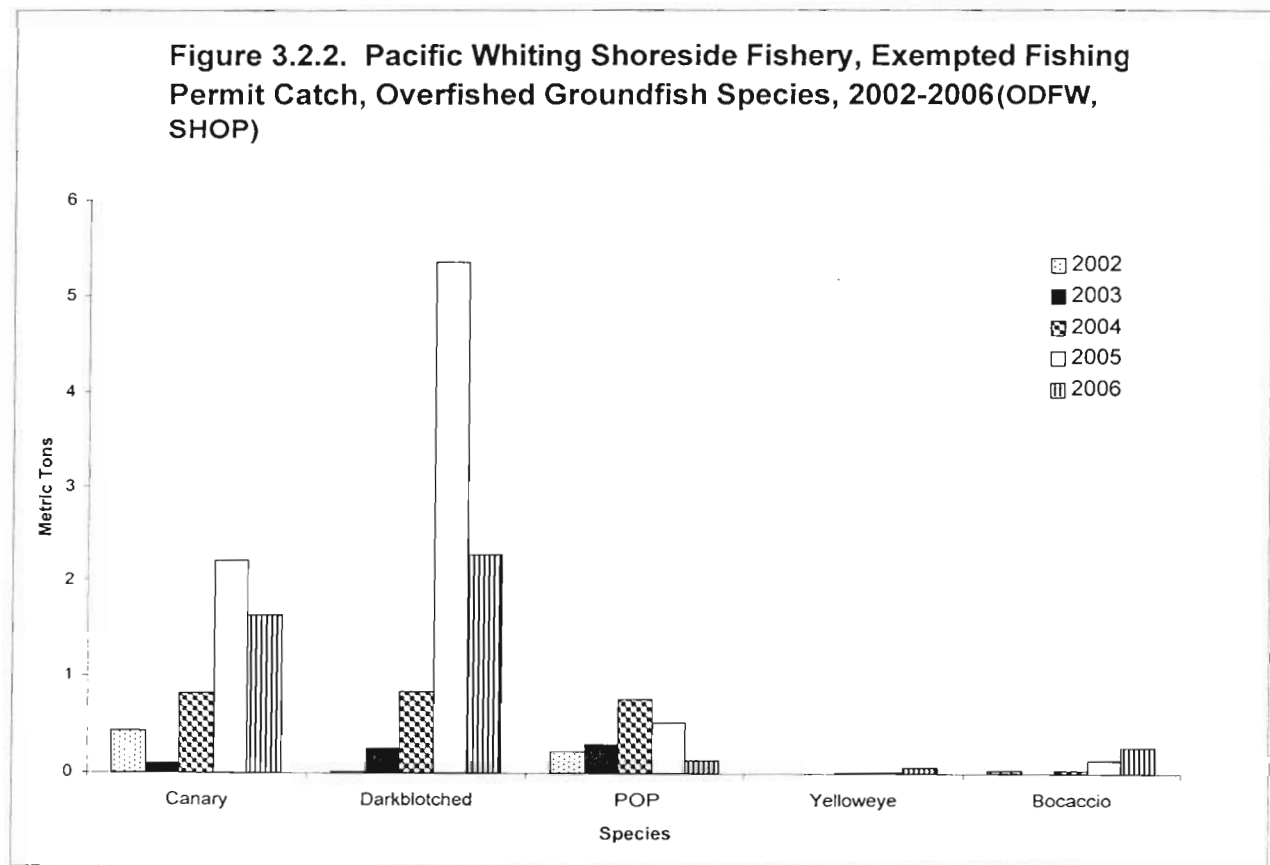
Canary rockfish (*Sebastes pinniger*): Canary rockfish range from northern Baja California, Mexico, to southeastern Alaska (Boehlert and Kappenman 1980; Hart 1988; Love 1991; Miller and Geibel 1973; Richardson and Laroche 1979). There is a major population concentration of canary rockfish off Oregon (Richardson and Laroche 1979). Canary rockfish primarily inhabit waters that are 91 m (50 fm) to 183 m (100 fm) deep (Boehlert and Kappenman 1980). In general, they inhabit shallow water when they are young, and deep water as adults (Mason 1995). Adult canary rockfish are associated with pinnacles and sharp drop-offs (Love, et al. 1991) and are most abundant above hard bottoms (Boehlert and Kappenman 1980).

Canary rockfish recruitment has shown a steady decline over the last 50 years. Recent recruitments have generally been low, with 1998 producing the largest estimated year-class of recruitment in the last decade. Canary rockfish was declared overfished on January 4, 2000 (65 FR 221). A canary rockfish stock assessment and rebuilding analysis was prepared in 2005. The results of the stock assessment estimated that the canary rockfish stock was at 9.4 percent of its unfished biomass coastwide in 2005. The 2005 stock assessment estimated that the canary

rockfish spawning stock biomass was at its lowest level in 2000, but has been increasing since that time and is projected to continue increasing. Because of its overfished status, canary rockfish bycatch limits have been used to constrain the incidental catch of canary rockfish in the Pacific whiting fishery. As noted with widow rockfish, if a bycatch limit is reached, all commercial Pacific whiting fisheries are closed for the remainder of the year, regardless of whether or not the Pacific whiting allocations have been reached. In 2006, the canary rockfish bycatch limit was initially set at 4.7 mt, but was revised downward to 4.0 mt during the season due to higher than expected canary rockfish research catch. In the past five years, the canary rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 0.11 mt in 2003 with a catch rate of 0.000002 mt of canary rockfish per mt of Pacific whiting to a high of 2.21 mt in 2005 with a catch rate of 0.000023 mt of canary rockfish per mt of Pacific whiting. Historically, the majority of tows with high canary rockfish catch rates were between Newport and Charleston (Wiedoff and Parker 2004).

Darkblotched Rockfish (*Sebastes crameri*):

Darkblotched rockfish are found from Santa Catalina Island off Southern California to the Bering Sea (Miller and Lea 1972; Richardson and Laroche 1979). They are most abundant from Oregon to British Columbia. Off Oregon, Washington, and British Columbia, darkblotched rockfish



Because of its overfished status, darkblotched rockfish bycatch limits have been used to constrain the incidental catch of darkblotched rockfish in Pacific whiting fishery. In 2006, the darkblotched rockfish bycatch limit was 25 mt. In the past five years, the darkblotched rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 0.01 mt in 2003 to a high of 5.35 mt in 2005 with a catch rate of 0.000055 mt of darkblotched rockfish per mt of Pacific whiting. The change in incidental catch rates coincides with the darkblotched rockfish biomass increase since 2002. The at-sea processing sectors tend to fish in deeper waters where darkblotched rockfish are encountered. The increased catch rates in the 2005 Pacific whiting shoreside fishery may have also resulted from increased fishing effort in deeper water to avoid Chinook salmon catch.

Pacific Ocean Perch (*Sebastes alutus*): POP are found from La Jolla, California to the western boundary of the Aleutian Archipelago (Eschmeyer, et al. 1983; Gunderson 1971; Ito, et al. 1986; Miller and Lea 1972), but are common from Oregon northward (Eschmeyer, et al. 1983). They primarily inhabit waters of the upper continental slope (Dark and Wilkins 1994) and are found along the edge of the continental shelf (Archibald, et al. 1983). POP are found in waters as deep as 825 m, but are usually found in depths of 100 m to 450 m (55 to 246 fm) and along submarine canyons and depressions (NOAA 1990). Throughout their range, POP are generally associated with gravel, rocky, or boulder type substrate (Ito 1986). Larvae and juveniles are pelagic; subadults and adults are benthopelagic (living and feeding on the bottom and in the water column). Adults form large schools 30 m wide, to 80 m deep, and as much as 1,300 m long (NOAA 1990). They also form spawning schools (Gunderson 1971). Juvenile POP form ball-shaped schools near the surface or hide in rocks (NOAA 1990).

POP was formally declared overfished in March 3, 1999, but had been managed as a depleted stock prior to being declared overfished. From 1965 to 1998, POP recruitment was relatively stable and showed recruits per spawning output as an increasing trend over time. However, when compared with the 1950s and 1960s, POP recruitment has been rather poor in recent years, although the 1999 and 2000 year classes (2002 and 2003 recruitment years) appear to be the largest since the early 1970s. A new stock assessment was prepared for POP in 2005 that updates the stock assessment from 2003 for the U.S. waters north of 43° N. lat. Like the 2003 stock assessment, the 2005 stock assessment did not show an obvious increasing trend in recruits per spawning output, nor are the recruitments completely stable. The updated stock assessment estimated the stock to be at 23.4 percent of its unfished biomass in 2005. Despite this, the low exploitation rate (1 percent) since 2000, has allowed the stock to rebuild slowly. Since that time, the POP stock has increased from 20.9 percent of the unfished biomass to 23.4 percent.

In the past five years, the POP catch in the Pacific whiting shoreside fishery has ranged from a low of 0.14 mt in 2006 to a high of 0.76 mt in 2004. Like darkblotched rockfish, POP is a shelf species that is found in deeper waters and is more commonly seen as incidental catch in the at-sea sectors of the Pacific whiting fishery.

Yelloweye Rockfish (*Sebastes ruberrimus*): Yelloweye rockfish range from the Aleutian Islands, Alaska, to northern Baja California, Mexico, and are common from Central California northward to the Gulf of Alaska (Eschmeyer, et al. 1983; Hart 1988; Love 1991; Miller and Lea 1972; O'Connell and Funk 1986). Yelloweye rockfish occur in water from 25 m (14 fm) to 550 m (301 fm) deep with 95 percent of survey catches occurring in waters between 50 m (27 fm) and 400 m (219 fm) (Allen and Smith 1988). Yelloweye rockfish are bottom dwelling, generally solitary, rocky reef fish, found either on or just over reefs (Eschmeyer, et al. 1983; Love 1991; Miller and Lea 1972; O'Connell and Funk 1986). Boulder areas in waters deeper than 180 m (98 fm), are the most densely populated habitat type for adult yelloweye rockfish. Juveniles prefer shallow-zone broken-rock habitat (O'Connell and Carlile 1993). Yelloweye rockfish also occur around steep cliffs and offshore pinnacles (Rosenthal, et al. 1982).

Yelloweye rockfish was declared overfished on January 11, 2002. In March 2006, a new stock assessment was prepared for yelloweye rockfish. The results of the coastwide stock assessment estimated that yelloweye rockfish is at 17.7 percent of its unfished biomass coastwide in 2006 and projected that the stock is lagging behind the original rebuilding schedule.

In the past five years, the Yelloweye rockfish catch in the Pacific whiting shoreside fishery has ranged from a low of 0 mt in 2002 and 2003 to a high of 0.06 mt in 2006. Because yelloweye rockfish is less vulnerable to trawl gear than the fixed gears, it is not commonly seen as incidental catch.

Bocaccio (*Sebastes paucispinis*): Bocaccio is a common rockfish occurring in coastal waters of the northeastern Pacific from Kruzof and Kodiak Islands in the Gulf of Alaska to central Baja California, Mexico (Hart 1988; Miller and Lea 1972). Historically, bocaccio are most abundant in waters off central and southern California. The population is considered to be two stocks, northern and southern, which are separated by an area of scarcity off northern California and southern Oregon (Macall and He 2002). The northern stock of bocaccio, which is taken in the Pacific whiting fishery, has not been assessed nor has the northern stock been declared overfished like the southern stock. In the past five years, the bocaccio catch in the Pacific whiting shoreside fishery has ranged from a low of 0 mt in 2003 to a high of 0.26 mt in 2006.

3.2.4 Non-Groundfish Resources

Species managed under the Coastal Pelagic Species Fishery Management Plan were incidentally taken in the Pacific whiting shoreside fishery between 2000 and 2006, including jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), and squid. Like Pacific whiting, these are schooling fish that are not associated with the ocean bottom, and that migrate in coastal

waters. In addition, Walleye pollock (*Theragra chalcogramma*) and American shad (*Alosa sapidissima*) were observed in the 2001 to 2006 fishery. Table 1. shows the catch of the most common non-groundfish species taken in EFP catches between 2001 and 2006.

Table 1. Pacific Whiting Shoreside Fishery EFP Catch of Non-groundfish Species taken incidentally, 2001-2006. (Jesse and Saelens 2007)						
	2001	2002	2003	2004	2005	2006
Pacific Whiting	73,326	45,276	51,061	89,251	97,379	97,296
NON-GROUNDFISH						
Coastal Pelagic Species	403.37	0.11	4.42	0.67	1.23	0.16
Pacific mackerel	211.21	7.26	67.92	107.16	78.49	6.18
Jack mackerel						
Pacific herring	a/	0.01	1.11	62.07	7.31	15.09
American shad	a/	4.35	8.48	46.55	148.69	37.51
Walleye pollock	a/	145.88	1.12	7.39	187.91	0.00
Miscellaneous	439.27a	2.35	1.62	4.47 b/	38.44 b/	8.73
a/ Observer data indicated that approximately 80 percent was jack mackerel. b/ Other includes squid, sardine, shark, Pacific cod, flatfish other than halibut, skates, octopus, sunfish and jelly fish						

Coastal Pelagic Species (CPS): CPS are schooling fish not associated with the ocean bottom and that migrate in coastal waters. These species include: northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), Pacific (chub) mackerel (*Scomber japonicus*), jack mackerel (*Trachurus symmetricus*) and market squid (*Loligo opalescens*). These species are managed under the Coastal Pelagic Species Fishery Management Plan. Sardines inhabit coastal subtropical and temperate waters and at times have been the most abundant fish species in the California current. During times of high abundance, Pacific sardine range from the tip of Baja California to southeastern Alaska. When abundance is low, Pacific sardine do not occur in large quantities north of Point Conception, California. Pacific (chub) mackerel range from Banderas Bay, Mexico to southeastern Alaska. They are common from Monterey Bay, California to Cabo San Lucas, Baja California, and most abundant south of Point Conception, California. The central subpopulation of northern anchovy ranges from San Francisco, California to Punta Baja, Mexico. Jack mackerel are a pelagic schooling fish that range widely throughout the northeastern Pacific,

however much of their range lies outside the U.S. EEZ. Adult and juvenile market squid are distributed throughout the Alaska and California current systems, but are most abundant between Punta Eugenio, Baja California and Monterey Bay, Central California.

Stock assessments for Pacific sardine and Pacific mackerel from December 1999 and July 1999, respectively, indicate increasing relative abundance for both species. Pacific sardine biomass in U.S. waters was estimated to be 1,581,346 mt in 1999; Pacific mackerel biomass (in U.S. waters) was estimated to be 239,286 mt. During 1999, Pacific sardine landings for the directed fisheries off California and Baja California, Mexico, reached the highest level in recent history, with combined total landings of 115,051 mt. In 1998, near-record landings of 70,799 mt of Pacific mackerel occurred for the combined directed fisheries off California and Baja California.

Population dynamics for market squid are poorly understood, and annual commercial catch varies from less than 10,000 mt to 90,000 mt. They are thought to have an annual mortality rate approaching 100 percent, which means the adult population is almost entirely new recruits. Successful spawning is crucial to future years' abundance.

Pacific Herring (*Clupea pallasii*): The overall distribution of the Pacific herring is from northern Baja California to Toyama Bay, Japan, and westward on the shores of Korea and the Yellow Sea (Svetovidov 1952). Along the North American continent, Pacific herring have been recorded from northern Baja California to Port Clarence, Alaska (Alderdice and Velsen 1971; Hart 1973; Miller and Lea 1972). Pacific herring prefer spawning locations in sheltered bays and estuaries. Along the West Coast, principal spawning areas include: San Francisco Bay, Richardson Bay, Tomales Bay and Humboldt Bay. Pacific herring spawn in variable seasons, but often in the early part of the year on eelgrass or other submerged vegetation in intertidal and sub-tidal environments. The California Department of Fish and Game (CDFG) has traditionally used spawning and hydroacoustic surveys to assess the stock size of Pacific herring in San Francisco Bay. These surveys have demonstrated a steady downward trend in the stock size over the past 25 years. In 2003, CDFG use statistical modeling techniques to further assess the status of the population. The indication was that the San Francisco Bay herring population has been reduced to a level of roughly 20 percent of the unfished biomass level and is presently at or near the lowest abundance observed since the early 1970s (CDFG 2003). While spawning populations of herring are known to occur in the Washington coastal region, only occasional stock assessment are conducted (wdfw.wa.gov/fish/forage/herring.htm).

American Shad (*Alosa sapidissima*): American shad is compressed silvery fish with a row of dark spots (3-23) along its side. It can be easily distinguished by its sharp saw-like scales or "scutes" along its belly. Average sized shad are 12-25 inches in length and 2.5 to 5 pounds (lbs). The American shad is a highly migratory anadromous species that returns to its freshwater natal (birth)

areas to spawn. Shad spawn in estuaries, streams, and rivers in the spring and early summer months. American shad was introduced in the Pacific Northwest in the late 1800's. In 1990, the population of shad entering the Columbia River was over 4 million fish.

Walleye Pollock (*Theragra chalogramma*): Pollock are found in the waters of the Northeastern Pacific Ocean from the Sea of Japan, north to the Sea of Okhotsk, east in the Bering Sea and Gulf of Alaska, and south along the Canadian and U.S. West Coast to Carmel, California. Adult walleye pollock are generally semi-demersal species on continental shelf and slope. A variety of environmental factors, including hydrographic fronts, temperature, light intensity, prey availability, and depth determine the distribution of juveniles and adults. They are not common off the West Coast, but occasionally sufficiently large enough numbers move south from Canadian waters to be targeted by West Coast commercial fishers. Adults most commonly occur between 100 and 300m.

3.2.5 Prohibited Fish Species

Pacific Salmon: Sockeye (*Onchorincus nerka*), chum (*Onchorincus keta*), and pink (*Onchorincus gorbuscha*) salmon are rarely encountered in the Pacific whiting shoreside fishery. Coho salmon (*Onchorincus kisutch*) is caught in relatively low numbers and Chinook salmon (*Onchorincus tshawytscha*) is the most common salmon encountered in the Pacific whiting shoreside fishery. Table 2. shows the incidental catch of salmon by species in the Pacific whiting shoreside EFP fishery from 2001 to 2006.

Chinook salmon is the largest of the Pacific salmon. Chinook salmon are found from the Ventura River in California to Point Hope, Alaska in North America, and in northeastern Asia from Hokkaido, Japan to the Anadyr River in Russia (Healey 1991). Additionally, Chinook salmon have been reported in the Mackenzie River area of northern Canada (McPhail and Lindsey 1970).

The generalized life history of Pacific salmon involves incubation, hatching, and emergence in freshwater, migration to the ocean, and subsequent initiation of maturation and return to freshwater for completion of maturation and spawning. Of the Pacific salmon, Chinook salmon exhibit the most diverse and complex life history strategies. Healey (1986) described sixteen age categories for Chinook salmon, seven total ages with three possible freshwater ages. Two generalized freshwater life-history types were initially described by Gilbert (1912): "stream-type" Chinook salmon reside in freshwater for a year or more following emergence, whereas "ocean-type" Chinook salmon migrate to the ocean within their first year. Healey (1983; 1991) has promoted the use of broader definitions for "ocean-type" and "stream-type" to describe two distinct races of Chinook salmon. This racial approach incorporates life history traits, geographic distribution, and genetic differentiation and provides a valuable frame of reference for comparisons of Chinook salmon populations. Additionally, some male Chinook salmon mature in freshwater, thereby foregoing emigration to the ocean. Chinook salmon exhibit a high degree of

variability in life-history traits; however, there is considerable debate as to what degree this variability is the result of local adaptation or the general plasticity of the salmonid genome (Ricker 1972; Healey 1991; Taylor 1991).

In 2000, the incidental take of Chinook exceeded 11,000 fish for the entire Pacific whiting fishery and led to a re-evaluation of the biological opinion that sets the allowable Chinook salmon threshold. Discussions with fishers did not reveal any change in fishing behavior that would have accounted for the increased Chinook catch. One possible explanation for the increased catch was that there were simply more Chinook available to the Pacific whiting fishery than in past years (Hutton and Parker 2000).

Readers who are interested in further information on salmon bycatch as it applies to the entire Pacific whiting fishery, are referred to Section 5.1.1 of the EIS, prepared by the Pacific Fishery Management Council staff, for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery. Copies of the EIS can be obtained from the Pacific Fishery Management Council, by writing to 7700 NE Ambassador Place, Suite 200, Portland, OR 97220-1384; or calling 503 820-2280; or viewing the internet posting at <http://www.pcouncil.org>.

Pacific Halibut (*Hippoglossus stenolepis*): Pacific halibut is a flatfish from the family Pleuronectidae. Pacific halibut ranges from California to the Bering sea and are considered to be one population. They are demersal and inhabit sand and gravel bottoms, especially banks along the continental shelf. Halibut spawn during the winter in deeper offshore waters, 300 m (163 fm). Eggs and larvae drift great distances with the ocean currents before settling to the bottom in shallow feeding areas. After one or two years the juvenile Pacific halibut tend to migrate to more southern and easterly areas until they reach maturity. Adult Pacific halibut migrate from shallow summer feeding grounds to deeper winter spawning grounds. Most adult fish return to the same feeding grounds each summer.

Dungeness Crab (*Cancer magister*): Dungeness crab are distributed from the Aleutian Islands, Alaska, to Monterey Bay, California. They live in bays, inlets, around estuaries, and on the continental shelf. Dungeness crab are found to a depth of about 180 m (98 fm). Although Dungeness crab is found on mud and gravel, it is most abundant on sandy bottoms and in eelgrass.

Table 2. Pacific Whiting Shoreside Fishery EFP Catch of Prohibited Species taken incidentally, 2001-2006. (Jesse and Saelens 2007)						
	2001	2002	2003	2004	2005	2006
Pacific Whiting (mt)	73,326	45,276	51,061	89,251	97,379	97,296
PROHIBITED SPECIES (number of animals)						
Salmon						
Chinook	2,627	1,062	425	4,206	4,018	839
Coho	35	14	0	8	37	18
Chum	32	72	0	43	6	3
Sockeye	0	0	0	0	0	0
Pink	304	0	0	0	37	0
Steelhead	0	0	0	0	0	0
Pacific halibut	23	9	16	52	46	7
Dungeness Crab	43	65	0	2	207	8

3.2.6 Endangered and Protected Species

Marine species listed as endangered or threatened under the ESA include marine mammals, seabirds, sea turtles, and salmon. Under the ESA, a species is listed as "endangered" if it is in danger of extinction throughout a significant portion of its range and "threatened" if it is likely to become an endangered species within the foreseeable future throughout all, or a significant portion, of its range.

Pacific Salmon: Several species of salmon found along the Pacific Coast have been listed under the ESA. Data indicate that some of these species are incidentally taken in the Pacific whiting fishery. (Table 2) Because several Chinook salmon runs are listed under the ESA, the incidental catch of Chinook salmon in Pacific whiting fishery is a concern. NMFS has issued Biological Opinions under the ESA pertaining to the effects of the Pacific Coast groundfish FMP fisheries on Chinook salmon on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999. The August 1992, Biological Opinion included an analysis of the effects of the Pacific whiting fishery on listed Chinook salmon. The Biological Opinions have concluded that Chinook is the salmon species most likely to be affected by the groundfish fishery, while other salmon species are rarely encountered in the Pacific whiting and other groundfish fisheries. The analysis determined that there was a spatial/temporal overlap between the Pacific whiting fishery and the distribution of ESA listed Chinook salmon such that it could result in incidental take of listed salmon. The 1992 Biological Opinion included an incidental take statement that authorized the incidental take of 0.05 salmon per metric ton of

Pacific whiting. The Biological Opinion identified the need for continued monitoring of the Pacific whiting fishery to evaluate impacts on salmon, and specifically emphasized the need to monitor the Pacific whiting shoreside fishery because fishing patterns and bycatch rates were likely to differ from those observed on the at-sea processors.

NMFS reinitiated a formal Section 7 consultation under the ESA in 2005 for both the Pacific whiting midwater trawl fishery and the groundfish bottom trawl fishery. The December 19, 1999 Biological Opinion had defined an 11,000 Chinook incidental take level for the Pacific whiting fishery. During the 2005 Pacific whiting season, more than 11,000 fish Chinook were taken, triggering reinitiation. NMFS prepared a Supplemental Biological Opinion dated March 11, 2006, which addressed salmon take in both the Pacific whiting midwater trawl and groundfish bottom trawl fisheries. In that Supplemental Biological Opinion, NMFS concluded that catch rates of salmon in the 2005 Pacific whiting fishery were consistent with expectations considered during prior consultations. Chinook bycatch has averaged about 7,300 over the last 15 years and has only occasionally exceeded the reinitiation trigger of 11,000. Since 1999, annual Chinook bycatch has averaged about 8,450. The Chinook ESUs most likely affected by the Pacific whiting fishery has generally improved in status since the 1999 Section 7 consultation. Although these species remain at risk, as indicated by their ESA listing, NMFS concluded that the higher observed bycatch in 2005 does not require a reconsideration of its prior "no jeopardy" conclusion with respect to the fishery. For the groundfish bottom trawl fishery, NMFS concluded that incidental take in the groundfish fisheries is within the overall limits articulated in the Incidental Take Statement of the 1999 Biological Opinion. The groundfish bottom trawl limit from that opinion was 9,000 fish annually. NMFS will continue to monitor and collect data to analyze take levels. NMFS also reaffirmed its prior determination that implementation of the Groundfish FMP is not likely to jeopardize the continued existence of any of the affected ESUs.

Lower Columbia River coho (70 FR 37160, June 28, 2005) and the Southern Distinct Population Segment (DPS) of green sturgeon (71 FR 17757, April 7, 2006) were recently listed as threatened under the ESA. As a consequence, NMFS has reinitiated its Section 7 consultation on the PFMF's Groundfish FMP. After reviewing the available information, NMFS concluded that, in keeping with Section 7(a)(2) of the ESA, allowing the fishery to continue under Amendment 16-4 to the FMP and the 2007-2008 groundfish harvest specifications and management measures final rule would not result in any irreversible or irretrievable commitment of resources that would have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures. The fishing under the emergency rule is consistent with those activities and thus the conclusion remains the same.

Marine Mammals: The waters off Washington, Oregon, and California support a wide variety of marine mammals. Approximately thirty species, including seals and sea lions, sea otters, and whales, dolphins, and porpoise occur within the EEZ. Many marine mammal species seasonally migrate through Pacific Coast waters, while others are year round residents.

The Marine Mammal Protection Act (MMPA) and the ESA together guide marine mammal species protection and conservation policy. Under the MMPA, NMFS is responsible for the management of cetaceans and pinnipeds, while the U.S. Fish and Wildlife Service manages sea otters. Stock assessment reports review new information every year for strategic stocks (those whose human-caused mortality and injury exceeds the potential biological removal (PBR)) and every three years for non-strategic stocks. Marine mammals whose abundance falls below the optimum sustainable population are listed as “depleted” according to the MMPA. Fisheries that interact with species listed as depleted, threatened, or endangered may be subject to management restrictions under the MMPA and ESA. NMFS publishes an annual list of fisheries in the Federal Register separating commercial fisheries into one of three categories, based on the level of serious injury and mortality of marine mammals occurring incidentally in that fishery. The categorization of a fishery in the list of fisheries determines whether participants in that fishery are subject to certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements. The Pacific Coast groundfish fisheries are in Category III, indicating a remote likelihood of, or no known serious injuries or mortalities, to marine mammals.

Seabirds: The California Current System supports more than two million breeding seabirds and at least twice that number of migrant visitors. Tyler et al. (1993) reviewed seabird distribution and abundance in relation to oceanographic processes in the California Current System and found that over 100 species have been recorded within the EEZ including: albatross, shearwaters, petrels, storm-petrels, cormorants, pelicans, gulls, terns and alcids (murres, murrelets, guillemots, auklets and puffins). In addition to these “classic” seabird, millions of other birds are seasonally abundant in this oceanic habitat including: waterfowl, waterbirds (loons and grebes), and shorebirds (phalaropes). There is considerable overlap of fishing areas and areas of high bird density in this highly productive upwelling system. The species composition and abundance of birds varies spatially and temporally. The highest seabird biomass is found over the continental shelf and bird density is highest during the spring and fall when local breeding species and migrants predominate.

The U.S. Fish and Wildlife Service is the primary Federal agency responsible for seabird conservation and management. Under the Magnuson-Stevens Act, NMFS is required to ensure fishery management actions comply with the laws designed to protect seabirds.

Sea Turtles: Sea turtles are highly migratory and four of the six species found in U.S. waters have been sighted off the Pacific Coast. Little is known about the interactions between sea turtles and West Coast commercial fisheries. The directed fishing for sea turtles in WOC groundfish fisheries is prohibited, because of their ESA listings. The management and conservation of sea turtles is shared between NMFS and USFWS. Sea turtles catch has not been documented in the Pacific whiting shoreside fishery.

Green Sturgeon (*Acipenser medirostris*): The Southern Distinct Population Segment (DPS) of

green sturgeon (71 FR 17757, April 7, 2006) were recently listed as threatened under the ESA. Green sturgeon are found from Ensenada, Mexico, to Southeast Alaska. Green sturgeon are not abundant in any estuaries along the Pacific coast, although they are caught incidentally in the estuaries by the white sturgeon fishery.

The green sturgeon is a primitive, bottom dwelling fish. It is characterized by its large size and long round body. The sturgeon has no scales, instead it has "scutes" (or plates) located along their bodies. Scutes are actually large modified scales, that serve as a type of armor or protection. The dorsal body color is a dark olive-green, with the ventral surface a lighter whitish green, with the scutes having a lighter coloration than the body. Green sturgeon can reach 7 feet in length and weigh up to 350 lbs.

The green sturgeon is an anadromous fish that spends most of its life in salt water and returns to spawn in fresh water. It is a slow growing and late maturing fish that apparently spawns every 4 to 11 years during the spring and summer months. Feeding on algae and small invertebrates while young, green sturgeon migrate downstream before they are two years old. Juveniles remain in the estuaries for a short time and migrate to the ocean as they grow larger. Adult green sturgeon feed on benthic invertebrates and small fish. The green sturgeon can become highly migratory later in life. They have been documented as traveling over 600 miles between freshwater and estuary environments. (http://www.psmfc.org/habitat/edu_anad_table.html)

3.3 Essential Fish Habitat

The MSA, as amended by the 1996 SFA, requires NMFS and the Council to describe Essential Fish Habitat (EFH) and enumerate potential threats to EFH from both fishing and nonfishing activities for the managed species. EFH for Pacific Coast groundfish is defined as the aquatic habitat necessary to allow groundfish production to support long-term sustainable fisheries for groundfish and for groundfish contributions to a healthy ecosystem. In December 2005, NMFS completed a final EIS on EFH. This final EIS supports action taken under Amendment 19 titled: The Pacific Coast Groundfish Fishery Management Plan, EFH Designation and Minimization of Adverse Impacts, contains detailed further information on the physical environment. Readers who are interested in detailed information on the West Coast marine habitat and physical oceanography are referred to Section 3.2 of the final EFH EIS. A copy of the EFH EIS can be obtained by contacting the Sustainable Fisheries Division, Northwest Region, NMFS, 7600 Sand Point Way, NE, Seattle, WA 98115-0070; or viewing the internet posting at www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-Management/NEPA-Documents/index.cfm.

4. DESCRIPTION OF THE WHITING FISHERY AND MANAGEMENT

Until passage of the Magnuson-Stevens Act, the fishery for whiting was dominated by foreign vessels. Even after passage of that Act, foreign fishing continued to dominate for some years, but over time, through joint ventures and then ultimate development of domestic capacity, the fishery became Americanized. Fishing operations during much of this period were low intensity compared to those of the 1990s, and fishing lasted from April through September or October each year. In the late 1980s, surimi technology was introduced and the fishery immediately changed to a fast-paced competition for the available quota. However, there is now no foreign fishing for whiting in U.S. waters. The U.S. does, however, share the whiting resource with Canada, and both nations have developed large whiting fisheries.

4.1 Characteristics of the U.S. Whiting Fishery

4.1.1 The U.S. Whiting Fishery

The U.S. fishery has several components: catcher/processor, mothership, shoreside delivery, and tribal. The catcher/processor sector is comprised of vessels that harvest and process whiting at sea (the fleet has typically been six to nine vessels annually since the formation of the Pacific Whiting Conservation Cooperative in 1997). The mothership sector is comprised of motherships and catcher vessels that harvest whiting for delivery to motherships that process the whiting at sea (typically three - six motherships operate in the fishery with one mothership also servicing the tribal fleet). Motherships are vessels that do not harvest, but process the whiting at sea. The shoreside sector is comprised of vessels that harvest whiting for delivery to shoreside processors (in recent years, the number of participating vessels has ranged from 29 to 37 vessels, some of which also service the non-tribal mothership sector). The largest component of the U.S. fishery is the non-tribal directed fishery. As used here, the shore-based sector includes vessels that make landings of whiting under trip limits when the primary whiting season is closed. There is a significant U.S. tribal fishery. Table 2 presents a history of landings by the various sectors since 1997. Note that this table provides detail that prior to 1997 the non-tribal mothership and catcher-processor sectors were managed as a single sector and that the Tribal Sector is the combination of the Tribal shore-based sector and mothership sectors. Each sector receives a portion of the non-tribal commercial OY, with the catcher/processors receiving 34 percent (70,751 mt), the mothership sector receiving 24 percent (49,942 mt), and the shoreside sector receiving 42 percent (87,398 mt), amounts that are roughly an 11% reduction from 2005 and 2006 levels. It should

also be noted that whiting is not the only fishery that many of these vessels depend on. Shoreside vessels typically participate in other fisheries, such as non-whiting groundfish, crab, and shrimp fisheries. Mothership and catcher-processor vessels typically participate in the Alaska pollock fishery.

4.1.2 Joint Management of Whiting With Canada

The Pacific whiting catch sharing arrangement that was agreed upon provides 73.88 percent of the coastwide total catch OY to the U.S. fisheries and 26.12 percent to the Canadian fisheries. The Pacific Whiting Act of 2006, enacted January 12, 2007 (Pub. Law 109-479) provides authority to implement the agreement. In 2006, the U.S. ABC (73.88 percent of the U.S.-Canada coastwide ABC) was 518,294 mt and the U.S. total catch OY with a 40-10 precautionary adjustment was 269,069 mt. Table 3 shows the annual Pacific whiting ABCs and OYs for the years between 1997 and 2006. Table 3 shows the history of the U.S. and Canadian catch (i.e., the difference between Total Catch and U.S. Catch) for the past 10 years; whiting catch estimates for 2006 are still preliminary.

Table 3. U.S. and Total Whiting Catch, 1997-2006

<u>Year</u>	<u>U.S. Catch (mt)</u>	<u>Total Catch (mt)</u>
1997	233,000	325,200
1998	233,000	320,600
1999	225,000	311,900
2000	208,000	230,800
2001	182,000	236,000
2002	132,000	182,900
2003	143,000	205,600
2004	210,000	334,700
2005	260,000	360,300
2006 (prelim)	266,000	360,000

4.1.3 Tribal Rights to Whiting

In 1994, the United States formally recognized that the four Washington coastal treaty Indian tribes (Makah, Quileute, Hoh, and Quinault) have treaty rights to fish for groundfish in the Pacific Ocean. In general terms, the quantification of those rights is 50 percent of the harvestable surplus of groundfish that pass through the tribes' usual and accustomed ocean fishing areas (described at

50 CFR 660.324). The Pacific Coast Indian treaty fishing rights, described at 50 CFR 660.385, allow for the allocation of fish to the tribes through the specification and management measures process. A tribal allocation is subtracted from the species OY before the commercial allocation is derived.

Since 1999, the tribal allocation of Pacific Whiting has been set according to an abundance-based sliding scale method, proposed by the Makah Tribe in 1998 see 64 FR 27928, 27929 (May 29, 1999); 65 FR 221, 247 (January 4, 2000); 66 FR 2338, 2370 (January 11, 2001). Details on the abundance-based sliding scale allocation method and related litigation are fully discussed in the preamble to the proposed rule (69 FR 56570; September 21, 2004). On December 28, 2004, the Ninth Circuit Court of Appeals upheld the sliding scale approach in *Midwater Trawler Cooperative v. Daley*, 393 F. 3d 994 (9th Cir. 2004). Under the sliding scale allocation method, the tribal allocation varies with U.S. Pacific whiting OY, ranging from a low of 14 percent (or less) of the U.S. OY when OY levels are above 250,000 mt, to a high of 17.5 percent of the U.S. OY when the OY level is at or below 145,000 mt.

4.1.4 Allocations to U.S. Whiting Sectors

Given the small amount of Pacific whiting that is typically landed prior to the start of the primary season on April 1, final adoption of an ABC and OY are delayed until the Council's March meeting each year. This is followed by the publication of a final rule to implement the harvest specifications and management measures for the Pacific whiting fishery. Sector allocations are specified in the annual Pacific whiting specifications final rule.

The commercial OY (non-tribal) for Pacific whiting is calculated by deducting the tribal allocation and estimated amounts for research and non-groundfish fishery catch. Regulations at 50 CFR 660.323(a)(4) divide the commercial OY into separate allocations for the non-tribal catcher/processor, mothership, and shore-based sectors of the Pacific whiting fishery. The catcher/processor sector is comprised of vessels that harvest and process Pacific whiting. The mothership sector is comprised of catcher vessels that harvest Pacific whiting for delivery to mothership processors. Motherships are vessels that process, but do not harvest Pacific whiting. The shoreside sector is comprised of vessels that harvest Pacific whiting for delivery to shoreside processors. Each sector receives a portion of the commercial OY, with the catcher/processors getting 34 percent, motherships getting 24 percent, and the shore-based sector getting 42 percent (Table 4).

Year	U.S. OY (mt)	Shore-based Allocation (mt)	Catcher processor Allocation (mt)	Mothership Allocation (mt)	Tribal Allocation (mt)
2000	232,000	83,790	67,830	47,880	32,500

2001	190,400	68,418	58,786	41,496	17,500
2002	129,600	44,906	36,353	25,661	22,680
2003	148,200	50,904	41,288	29,088	25,00
2004	250,000	90,510	73,270	51,720	32,500
2005	269,069	97,469	78,903	55,696	35,000
2006	269,069	97,469	78,903	55,696	35,000

4.2 Socio-Economic Characteristics of the Whiting Fishery

4.2.1 Shore-based Harvesting Sector

Each sector of the Pacific whiting fishery remains open for fishing until its sector allocation is reached. However, the entire non-tribal commercial fishery could be closed before the sector allocations are attained if one of the overfished species bycatch limits were reached.

Unlike the at-sea sectors of the Pacific whiting fishery, where catch is sorted and processed shortly after it has been taken, vessels in the shoreside fishery hold primary season Pacific whiting on the vessel for several hours or days until it can be offloaded at a shoreside processor. Pacific whiting deteriorates rapidly, so it must be handled quickly and immediately chilled to maintain product quality. This is particularly true if the Pacific whiting is to be used to make surimi (a fish paste product). The quality or grade of surimi is highly dependent on the freshness of the Pacific whiting, which demands careful handling and immediate cooling or processing for the fishery to be economically feasible. Because rapid cooling can retard Pacific whiting flesh deterioration, most primary season vessels prefer to dump their unsorted catch directly below deck into the refrigerated salt water tanks. However, dumping the unsorted catch into the refrigerated salt water tanks precludes the immediate sorting or sampling of the catch. As a primary season fishery, fishers prefer to quickly and efficiently handle the catch so they can return to port for offloading. Given the primary season structure of the fishery, quick and efficient trips result in greater catch for each participating vessel.

Table 5 shows the annual shore-based allocation and season dates from 2000 to 2006. During this period the duration of the season has varied from 93 days in 2000 with a moderately high allocation to 30 day in 2003 when the allocation was at one of its lowest points.

Table 5. Pacific Whiting Shoreside Fishery Allocations and Season Dates, 2000-2006					
Year	Coastwide Allocation (mt)	Length of Coastwide Season	Early Season Allocation (mt)	Allocation Reached Before 6/15	Reapportionment (mt)

2000	83,790	93 days (6/15-9/15)	4,190	Yes (6/8)	No
2001	68,418	68 days (6/15-8/21)	3,421	No	4,200
2002	44,906	33 days (6/15-7/17)	2,245	No	No
2003	50,904	30 days (6/15-7/14)	2,545	No	No
2004	90,510	61 days (6/15-8/14)	4,526	Yes (5/22)	No
2005	79,469	65 days (6/15-8/18)	4,873	No	No
2006	97,469	49 days (6/15-8/2)	4,873	Yes (5/25)	No

Table 6. Pacific Whiting Shoreside Fishery EFP participants, 2000-2005.

Year	Coastwide Allocation (mt)	Number of EFP vessels that fished
2000	83,790	35
2001	68,418	29
2002	44,906	29
2003	50,904	35
2004	90,510	26
2005	79,469	28

4.2.2 Pacific Whiting Shoreside Processors and Communities

This section presents information on processors, communities, and states where Pacific whiting is landed. Table 7 shows that the highest percentage of Pacific whiting landings occur in Oregon. This is followed by Washington, and then California. Since 2004, the proportion of overall Pacific whiting landings has decrease in Oregon. However, communities receiving landings of Pacific whiting have historically included Westport and Ilwaco, Washington; Astoria, Newport, and Charleston, Oregon; and Eureka, and Crescent City, California.

Table 8 shows the number of Pacific whiting shoreside processors by state and year, and identifies the processing communities based on EFP data. In 2006, there were 23 processors that purchased Pacific whiting from fishermen with 10 of these processors purchasing from 4 lbs to 8,000 lbs (3.6 mt) of Pacific whiting. The other 13 processors all processed at least 1 million lbs of Pacific whiting each. During 2006 these 13 processors purchased 280 million lbs (127,000 mt) of hake worth \$17.4 million ex-vessel, and 110 million lbs (49,896 mt) of other fish and shellfish worth \$78.5 million. Table 9 presents data on landings and exvessel value of trawl landings of all groundfish and whiting by state in the period 2000-2005.

Table 7. Pacific Whiting Shoreside Landings by State, 2000-2005				
State	Year	Number of Landings	Pacific whiting catch (mt)	Percent of Pacific whiting by weight
Oregon	2000	838	68,701	80%
	2001	773	53,422	73%
	2002	454	32,168	71%
	2003	514	36,594	71%
	2004	815	59,006	66%
	2005	826	61,460	63%
California & Washington	2000	266	16,952	20%
	2001	257	19,904	27%
	2002	176	13,147	29%
	2003	186	14,602	29%
	2004	319	30,245	34%
	2005	356	35,918	37%

Table 8. Pacific Whiting Shoreside Processors and Processing Communities, 2000-2005		
Year	Processing communities	Number of designated EFP processors
2000-all Washington Oregon California	Westport WA, Ilwaco WA, Astoria	12
	OR, Newport OR, Charleston OR,	2
	Crescent City CA, Eureka CA	7
		3
2001-all Washington Oregon California	Westport WA, Ilwaco WA, Astoria	12
	OR, Newport OR, Charleston OR,	2
	Crescent City CA, Eureka CA	7
		3
2002-all Washington Oregon California	Westport WA, Astoria OR, Newport	8
	OR, Charleston OR, Eureka CA	1
		6
		1
2003-all Washington Oregon California	Westport WA, Ilwaco WA, Astoria	9
	OR, Newport OR, Charleston OR,	2
	Eureka CA	6
		1

2004-all Washington Oregon California	Westport WA, Ilwaco WA, Astoria OR, Newport OR, Charleston OR, Crescent City CA, Eureka CA	9 2 5 2
2005-all Washington Oregon California	Westport WA, Ilwaco WA, Warrenton OR, Newport OR, Charleston OR, Crescent City CA, Eureka CA, Moss Landing CA	10 2 5 3

Table 9. Shoreside Trawl Landings of Groundfish and Exvessel Revenue, by State and Year, 2000-2005. (PacFIN, May 2006)							
State		2000	2001	2002	2003	2004	2005
California	Non-whiting Landed Weight (mt)	9,764 11,859	7,929 9,546	8,026 10,068	7,330 8,618	6,101 7,090	5,760 7,021
	Exvessel Revenue (1000's \$)						
	Pacific whiting Landed Weight (mt)	4,986 765	2,306 171	2,773 274	1,695 166	4,742 641	3,062 338
Oregon	Exvessel Revenue (1000's \$)						
	Non-whiting Landed Weight (mt)	15,952 17,974	12,152 14,687	8,410 10,150	10,499 12,897	10,245 11,833	10,786 12,441
	Exvessel Revenue (1000's \$)						
Washington	Pacific whiting Landed Weight (mt)	68,702 6,081	53,376 4,132	32,305 3,219	36,581 3,642	59,075 4,641	61,463 7,107
	Exvessel Revenue (1000's \$)						
	Non-whiting Landed Weight (mt)	5,593 4,601	4,896 4,319	8,370 4,189	4,258 3,598	3,481 3,148	3,315 3,191
	Exvessel Revenue (1000's \$)						

	Pacific whiting						
	Landed Weight	12,156	17,730	10,630	12,934	25,838	32,291
	(mt)	1,122	1,439	1,061	1,283	1,993	3,848
	Exvessel						
	Revenue (1000's \$)						

Based on the Small Business Administration (SBA) criteria and a review of Pacific whiting shoreside processing company websites, state employment websites, newspaper articles, personal communications, and “gray” literature research publications such as “The Research Group” (2006), it appears that the thirteen major Pacific whiting processors can be grouped into nine SBA businesses based on analysis of affiliates. Within these nine SBA businesses, there are three businesses that each generated at least \$500 million in sales in 2003 (Seafood Business, May 2004, “Big Brands Head List of Top Suppliers”). One of these three companies reported employing 4,000 people. It is presumed that the other two companies have employment levels much higher than 500 employees. Four of the nine SBA businesses have employment level estimates that range from 100-250 employees, while the remaining two appear to be in the 50-100 range (due missing data, one of these relatively small businesses may have less than 50 employees). In terms of the SBA size standard of 500 or fewer employees for small businesses, there are six “small” businesses that participated in the shore-based Pacific whiting processing sector in 2006.

Annual sales information for these “small” businesses is unavailable, but total ex-vessel revenues—the values of the fish purchased from fisherman—are available. In 2006, these six businesses purchased approximately \$40 million in hake and other fish and shellfish from west coast fishermen. This compares to the \$60 million in hake and other fish and shellfish purchased by the three large businesses.

4.2.3 Participation Patterns in the Shore-based Fishery

The shorebased fishery is composed of vessels and the processing plants they deliver to. In the context of the proposed action, the fishery sector of greatest concern is the shore-based sector. This arises from the value of this sector to the communities in which whiting processing has become an important part of the local economic structure, in some respects replacing or mitigating lost processing capacity due to cutbacks in other groundfish fishery sectors. The concern is that, with a “race to fish,” the duration of the fishing season will be further shortened. The shorter the season, the less employment benefit and the less the whiting fishery can mitigate for or replace other lost groundfish fishery activities. Table 3 presents a summary of operational considerations for the season length the past 10 years as provided by ODFW.

Table 10. Operational Data on Shore-based Whiting Fishery 1997-2006

<u>Year</u>	<u>Start Date</u>	<u>End Date</u>	<u>Season Duration</u>	<u># Vessels</u>	<u># Processors</u>
1997	6/15	8/22	68	38	12
1998	6/15	10/13	120	35	13
1999	6/15	9/13	90	36	14
2000	6/15	9/15	92	36	14
2001	6/15	9/26	103	29	13
2002	6/15	7/17	32	29	8
2003	6/15	7/14	29	35	9
2004	6/15	8/14	60	26	9
2005	6/15	8/18	64	29	10
2006	6/15	8/2	48	37	14

The short seasons in 2002 and 2003 reflect the low OYs for the U.S. those years, and as the stock improved and as the OY increased, the season duration lengthened as well. However, in 2006, notwithstanding the more favorable allocation to the shore-based fishery, the season was shortened to only 48 days, compared to 64 days in 2005. This reflected the increase in the number of vessels participating, 37, compared to the 29 vessels that participated in 2005.

One of the issues behind this rule is the entry of “AFA” vessels into the shoreside sector. The data reported below are based on PacFIN, Shorebased Hake Observation Program (SHOP) and NWR Federal Permits Office data. There are a few discrepancies between these data systems that still need to be explored. These discrepancies mainly affect the counts of vessels in the 2002-2004. Two Non-AFA vessels were eliminated because they had relatively very small landings

compared to the other vessels while one vessel reported by the SHOP in the early years does not show up in the PacFIN fish ticket system. One AFA vessel only had 10,000 lbs of landing in one year and so it was considered a non-participant in that year.)

The Commercial OY for whiting is allocated among three sectors: Catcher-Processors-34%; Motherships-24%, and Shorebased 42%.

As a result of increases in the Commercial OY, shorebased landings and revenues have increased per year, as have the number of vessels participating in the fishery. On land, prices have increased dramatically in recent years but so have fuel prices.

Table 11. Landings, revenues, exvessel price, and other data, 2002-2006

	Landings Million lbs	Revenues Million \$	Ex-Vessel Price \$/lb	Fuel Price \$/gallon	Number Vessels	Revenue/Vessel \$1,000
2002	101	4.5	0.045	0.94	28	161
2003	113	5.1	0.046	1.23	31	166
2004	198	6.9	0.035	1.69	25	266
2005	215	11.3	0.053	2.00	29	389
2006	213	13.3	0.060	2.52	35	380

The issue at hand is the affect of AFA vessels, especially in recent years. Using 2002 as the base line, over the years there have been vessels entering and exiting and these vessels have been from both the AFA and non-AFA fleets. A large percentage of AFA vessels that fish whiting are associated with mothership operations. Entry and exit patterns from these vessels are primarily due to decisions by motherships to come down from Alaska. The Non-AFA fleet was significantly affected by the Buyback program, as 4 of the 7 vessels that exited the fishery after the 2003 season were buyback vessels. Because of the high quotas and revenues in 2005 and 2006 seasons, there were no exits in either fleet--only entrants.

Table 12. Entry and exit patterns, 2002-2006

Comparison Years	Total Entrants	Total Departures	AFA Entrants	AFA Exit	Non-AFA Entrants	Non-AFA Exit
2003-2002	6	3	2	0	4	3
2004-2003	4	9	0	2	4	7

2005-2004	3	0	2	0	1	0
2006-2005	6	0	3	0	3	0

During the period 2002-2006, 15 different AFA vessels participated in shorebased whiting fisheries--fourteen of these vessels fished under Pacific Groundfish permits prior to 1999 and the remaining AFA vessel first entered the Pacific groundfish fishery in 2006.

AFA vessels have higher per vessel revenues and landings than non-AFA vessels because they are designed for the Alaska Pollock fishery and tend to be larger. Therefore, while both the AFA and Non-AFA fleets expanded by 3 vessels in 2006, the addition of the much larger AFA vessels increased the AFA share of shorebased landings from 51 percent in 2005 to 58 percent in 2006, or by about 7 to 8 percent. Note also that despite the increase in ex-vessel prices, the average Non-AFA revenues fell in 2006 compared to 2005.

Table 13. Number and landings and revenues for AFA and non-AFA vessels, 2002-6

	Number AFA Vessels	Number Non-AFA Vessels	% of Landings AFA	AFA Landings per vessel Million lbs	Non-AFA Landings per vessel Million lbs	AFA Revenues per Vessel \$1,000	Non-AFA Revenues per Vessel \$1,000
2002	10	18	43	4.4	3.2	196	142
2003	12	19	47	4.4	3.2	200	146
2004	10	16	49	9.6	6.3	336	216
2005	12	17	51	9.2	6.2	482	327
2006	15	20	58	8.2	4.5	510	271

One concern is that new AFA boats that have not participated in the whiting fishery would be unaware of West coast groundfish management constraints and the need to avoid overfished rockfish. The 2006 fishery was prosecuted successfully and the whiting fishery on a whole came in below the respective overfished species catch limits. For the shorebased fishery, the catch of canary rockfish, darkblotched rockfish, Pacific ocean perch, and widow rockfish was lower in 2006 than in 2005.

Table 14. Bycatch of overfished rockfish by whiting sector, 2003-6

Species	Year	Commercial Sector			TOTAL
		CP	MOTHER	SHORESIDE	
Canary	2003	0.2	0.1	0.1	0.4
	2004	0.5	4.1	0.8	5.4
	2005	0.3	0.7	2.2	3.2

	2006	0.1	0.9	1.6	2.6
Darkblotched	2003	4.2	0.1	0.3	4.6
	2004	4.4	3.0	0.7	8.1
	2005	5.9	5.1	5.3	16.4
	2006	6.7	4.2	2.3	13.2
POP	2003	5.0	0.1	0.3	5.4
	2004	1.0	0.1	0.8	1.8
	2005	0.8	0.9	0.5	2.2
	2006	0.7	1.9	0.0	2.7
Widow	2003	11.6	0.7	9.0	21.2
	2004	8.2	11.4	28.6	48.2
	2005	43.1	35.5	77.2	155.8
	2006	66.9	72.3	49.4	188.5

In addition to the increased number of vessels participating in the shoreside fishery, there has also been an increase in the number of processing plants processing whiting. Based on the concept that a primary processor of Pacific whiting typically processes one million lbs. (454 mt) or more, Table 15 shows the entry and exit trends in the Pacific whiting shore-based processing sector on a processor basis. Over the 2000-2006 period there were 17 different processing processors that processed at least one million lbs. (454 mt) in any one year. However there were eight “dominant” processors who processed one million lbs (454 mt) in at least seven of the eight years during this period. Because of entry and exit of processors, the composition of the “other” processor group changes significantly in most years. In 2005, there were no “other” processors while in 2006, 5 new processors entered the fishery, only one of which had operated before. (Its first year was 2004). The “dominant” processors typically harvest 90 to 100 percent of the Pacific whiting.

Table 15. Trends in Number of Processing Plants Consistently Processing Over One Million lbs of Whiting Per Year, 2000-06

Year	Number of Processors					Percent of total lbs processed by major processors
	Total	Major Processors	Others	Exit	Enter	
2000	12	8	4			75%
2001	10	8	2	2	0	91%
2002	9	8	1	1	0	90%

2003	9	8	1	0	0	90%
2004	9	8	1	1	1	97%
2005	8	8	0	1	1	100%
2006	13	8	5	0	5	92%

4.3 Non-Tribal At-Sea Sectors

There are two classes of vessels in the at-sea processing sector of the whiting fishery, catcher-processors that harvest and process their own catch, and mothership vessels that process unsorted catch received from smaller catcher vessels. The processing vessels are (>250 ft in length) and carry crews of 65-200, who mostly work in shifts to keep the factories operating day and night. The processing vessels primarily operate in the Alaskan Pollock (*Theragra chalcogramma*) fisheries, but move south to the WOC to fish for whiting between Pollock seasons.

Since 1991, the domestic at-sea whiting processors have voluntarily carried National Marine Fisheries Service (NMFS) observers to sample the catch and provide data that is used to: estimate total landed catch and discards; monitor the attainment of annual groundfish allocations; estimate catch rates of prohibited species; and assess stock conditions. The at-sea processing vessels have voluntarily carried observers since 1991 and all have carried two observers since 2001. Carrying 2 observers increases the accuracy of data used to monitor fishery allocations and estimate incidental catch.

The first year of implementation of a license limitation program in the Pacific groundfish fishery was 1994. Vessels that did not initially qualify for a permit had to buy or lease one from qualifying vessels to gain access to the fishery. To harvest whiting, all at-sea catcher-processors had to purchase or lease permits. This changed the composition of the at-sea processing fleet considerably, increasing the number of motherships, because permits are not required for vessels that only process (PFMC 1998). Unlike catcher-processors and catcher vessels, motherships do not have permits to harvest groundfish in the WOC. Since May 1997, when the Department of Justice approved allocation of whiting shares among the members of the Whiting Conservation Cooperative, the catcher-processor fishery has operated as a voluntary quota share program where each of the catcher-processor companies has agreed to take a specific share of the harvest. As mentioned above, the catcher-processor fleet has been operating under a cooperative arrangement named the Pacific Whiting Conservation Cooperative (PWCC). PWCC is comprised of four member companies. The four PWCC member companies operate 10 catcher/processor vessels licensed to participate in the U.S. west coast Pacific whiting fishery. The PWCC was formed in 1997 by the four companies that comprise the at-sea catcher-processor sector of the Pacific whiting fishery. Since formation of the PWCC, only 6 or 7 of the 10 eligible catcher-processor

vessels have participated in the fishery, providing a significant reduction in fishing effort. The PWCC members share real-time information among themselves on vessel bycatch experiences as well as sponsor scientific research that benefits the West Coast groundfish fishery

Table 16 shows the trends in the number of vessels participating by sector. These trends show recent increases in the number of catcher-processors, motherships, and mothership catcher vessels participating in the fishery.

Table 16. Number of vessels by sector, 1997-2006

	Catcher- Processors	Motherships	Mothership Catcher Vessels
1997	10	6	27
1998	7	6	23
1999	6	6	23
2000	8	6	23
2001	7	5	20
2002	5	4	11
2003	6	4	12
2004	6	4	10
2005	6	5	17
2006	9	6	20

4.4 Market Trends in the Fishery

The entry and exit of processors can be associated with market trends and the size of the Pacific whiting quotas. Processor consolidation appears to have occurred during the 2002-2004 period. Declines in the Pacific whiting OY in 2002 and 2003 may have caused processors to close their operations, or to consolidate with other operations. However, the increases in OY since 2004 combined with greater market demand, appears to have increased processor interest. During the 2000-2006 period, there has also been a shift in the major products being produced. When looking at estimates of wholesale production by major product form (surimi, fillets, and headed

and gutted), U.S. export statistics show an upward trend in the prices and production of headed and gutted (H&G) Pacific whiting and downward trend in the production of Pacific whiting surimi. (Export statistics do not isolate Pacific whiting fillets from other species fillets, so exports of Pacific whiting fillets are unknown). In the early 2000s, the amount of Pacific whiting being processed into surimi for export was far greater than that of H&G products. Simultaneous with the decline in the Pacific whiting OY, one of the three major surimi processors stopped production in 2003 and has yet to return to production. Meanwhile as described below, a new foreign market has spurred the production of H&G products to the extent that in 2006, H&G exports now greatly exceed surimi exports.

The Seafood Trend Newsletter (June 26, 2006) reported the following market trends:

Is it time to wave the yellowflag in the red-hot Pacific whiting market? While demand remains strong, wholesale prices may be getting out of hand for price-conscious buyers. The West Coast fishery is going gangbusters. Last year, 571.1 million lbs. of Pacific whiting was landed, the highest since 1966. Even as landings set a record, value and prices also grew.

And this year looks to continue the upward trend. The OY is the same as last year, the resource remains strong, and landings are good. As of June 19, the catch for the non-tribal fishery was at 185.7 million lbs out of a commercial allocation of 511.7 million lbs. This allocation is divided among three sectors of the fishery: 214.9 million lbs to shore-based, 122.8 million lbs to motherships, and 174.0 million lbs to catcher/processors. In addition 77.2 million lbs go to the tribal fishery.

Pacific whiting (*Merluccius productus*) stocks remain healthy even as the big 1999 year-class dies off. The 2002 and 2004 year classes may keep the fishery going at its current pace. The main constraint on the fishery is the bycatch of several rockfish species, especially POP, canary rockfish, darkblotched rockfish, and widow rockfish.

Demand for Pacific whiting has blossomed over the last couple of years, especially in the export market. Such countries as Russia and Ukraine have taken to H&G Pacific whiting. Last year exports of Pacific whiting increased a 9 percent in volume, to 95.7 million lbs, but 27 percent in value, to \$59.3 million, and gained 17 percent on a per lb basis to \$0.62/lb. compared to 2004. So far this year, the overall trend has, if anything, accelerated, with export volume and value growing. Through April, 11.4 million lbs of Pacific whiting were exported through West Coast ports, a 73 percent gain over 2005. Value jumped 119 percent to \$7 million.

But the seeds of potential problems may be visible in the comparatively slower growth in per-pound value, which gained only 27 percent going from \$.48 a year ago to \$0.61/lb

though April. Giving pause is word that inventory is beginning to pile up in some European markets. Marketers there are advising their American suppliers to sit on their inventory for the time being.

H&G is the place to be, but newer players could be behind the curve. Pushing too much product too quickly could come back to haunt the fishery this fall. If inventory piles up, prices may have to drop to move it, which could have repercussions throughout the Pacific whiting industry.

That's not to say that this will happen because demand is strong, especially in Russia and the Ukraine. Consumers there are moving up from lower-priced fish such as herring to higher quality and higher-priced fish such as Pacific whiting. And with the rapidly developing processing industry demanding more frozen fish, the U.S. is in a good position to satisfy demand.

Another factor in the success of the U.S. in entering export markets for Pacific whiting has been the relative absence of H&G Pacific whiting from Argentina and Peru over the last year or so. The U.S. has taken advantage of the situation and gained a solid foothold in the market.

The strength of the export market has had an impact on the domestic market for Pacific whiting. While the export market is garnering most of the attention and available product, the U.S. market is scrambling for Pacific whiting. This has resulted in higher prices in the U.S. as well as the drying up any spot market. Retailers are purchasing on contract to ensure their supply. Today, West Coast H&G whiting is wholesaling for \$0.57-\$0.59/lb., up from a more typical \$0.45-\$0.48 lb. West Coast fillets are wholesaling for as much as \$0.96/lb., up from \$0.72/lb." (Seafood Trend Newsletter, June 26, 2006).

It should be noted that the Seafood Trend's discussion of whiting stock trends is not completely accurate. According to the Pacific Fisheries Management Council's Groundfish Management Team (Agenda Item E.3.B Supplemental GMT Report, March 2007, page 1):

... Year class trends suggest that the stock is still heavily comprised of the 1999 year class, with near average recruitment from the 2003 and 2004 year classes. There is no indication of another strong year class emerging. As a consequence, the management decisions facing the Council with respect to whiting harvest levels are strikingly similar to those faced in 2006; stock size is projected to continue declining even with greatly reduced harvest rates....

Tables 17-20 show that the Seafood Trend forecast of slower growth did not come to fruition in 2006. Not only did the annual growth rate in exports from West Coast ports (Seattle, Portland,

San Francisco, and Los Angeles) in a tonnage increase but so did the per-pound value. Through December 2006, 123 million lbs (55,792 mt) and \$88 million worth of H&G products were exported through West Coast ports, an increase almost 30 percent in tonnage and 50 percent in value. The export price increased 16 percent to \$0.73 per pound compared to the average export price for 2005. These export growth rates appear to have affected ex-vessel prices as well. Exvessel prices increased by 44 percent in 2005 and 19 percent in 2006.

The most recent market information on whiting as reported in the Seafood Trend Newsletter (April 9, 2007);

The market for Pacific whiting has done anything but slow down, especially after the recent decisions on 2007 fishing regulations. In short, supply is down and looks to stay down for the foreseeable future. Export demand is fired up and may leave domestic needs short again.

Pacific whiting—often called hake, especially in Canada—is the major groundfish species off the Lower 48-British Columbia coast. The coastal stock is considered one stock and is managed as such. However, fishing in the U.S. and Canada are managed separately, though a treaty between the two countries specifies shares of the resource. The U.S. gets 73.88% of the ABC and Canada gets 26.12%. The treaty, formulated in 2003 is not yet signed, but the two nations follow its provisions since it prevents over-running the quota and hurting the resource.

There are also small inshore whiting populations (Strait of Georgia, Puget Sound, Gulf of California) but the coastal stock features larger fish, seasonal migration, and average recruitment except for occasional very large year-classes that sustain the population for several years.

At its March meeting, the Pacific Fishery Management Council decided on this year's fishery. It approved an acceptable biological catch of 612,068 metric tons, down 7.5% from last year. The drop came because the huge 1999 year-class had passed its peak. For the last several years, the fishery has depended on this strong year-class to sustain the fishery. Scientists do not see any major year-class coming along. The 2003 and 2004 year-classes are deemed "average."

With the drop in acceptable biological catch, the annual quota, or optimum yield was set at 328,358 tons, down 10.1% from the 364,842 tons last year. The optimum yield is divided between the U.S. and Canada, with the U.S. getting 242,591 tons and Canada receiving 85,767 tons. The U.S. share is further divided among tribal and non-tribal fishermen, with the tribes at 32,500 tons.

Last year, U.S. fishermen (tribal and non-tribal) landed 266,000 tons of whiting about the same as 2005. B.C. fishermen (foreign, joint venture, and shoreside) landed 94,000 tons, down slightly from the 100,000 tons of the previous year. Total landings last year were 360,000 tons.

Fishing this year started April 1 for the California shore-based fishery. Further north, the shorebased fishery opens June 15. The major U.S. at-sea fishery is set to open May 15.

As for the whiting market, it looks as strong as ever, barely taking a breather from last year's strong finish. Foreign demand for headed and gutted fish is driving the market, and will continue to drive it. The export demand has grown stronger because traditional sources of whiting, including the major producers of Argentina are having resource problems and reduced production. This has made J&G whiting from the U.S. and B.C. a valuable commodity.

Look at U.S. whiting/hake exports for the first month of the year. Export volume went from 2.9 million pounds a year ago to 7 million pounds this past January. More telling, the average price gained 16.9% going from \$.65/lb a year ago to \$.76/lb this year.

The major export markets for Pacific whiting continue to be Russia and the Ukraine. Russian buyers took 2.9 million pounds in January, up 84% from a year ago. The Ukraine took nearly as much, buying 2.4 million pounds, about seven times as much as January.

Activity is already heating up this year. There are reports that buyers are looking to tie up Canadian production. And U.S. processors are looking at export market again this year.

All this gives U.S. marketers a major case of heartburn. They have no certain source of product, and certainly not in the volumes they need. This continues the trend that began last year when many domestic marketers had a hard time meeting customer needs. But there is no turning back when export demand and prices continue to increase. As well, export markets want H&G, while the U.S. markets want some H&G but also fillets, which are more expensive to produce.

The above analysis addresses price trends for H&G products, but the major industry newsletters and magazines do not provide conquerable analysis of whiting fillet and surimi products. These are the major products of the at-sea sectors. The market for such products is strongly influenced by the market for Alaska Pollock fillets and surimi. The following is reported in the January 22, 2007 Seafood Trend Newsletter:

There could be a tug of war this year between the fillet and surimi markets in the Alaska

pollock business. Fillets have been on the rise, but surimi may have a trick or two up its sleeve.

With a limited supply of Alaska Pollock, how much should go to major Pollock products/ Despite fluctuations in Alaska Pollock stocks, the total allow catch has remained stable over time thanks to careful management by the North Pacific Fishery Management Council. Each year, fishermen are allowed to catch about 3.5 billion pounds of Alaska Pollock in the Bering Sea/Aleutian Islands and Gulf of Alaska fisheries. This year will be the same with fishermen chasing 3.503 billion pounds, down 4.9 million pounds (or 0.1%) from last year.

The fillet market has continued to gain strength over the last two years. Look at export figures for perspective. Through November 2006, the U.S. exported 189.4 million pounds of pollock fillets, an increase over the previous year. At the same time that export volume was growing, prices also increased, a good indication of market strength. The average price of pollock fillets gained 19% in 2006 over 2005.

For surimi, the opposite situation—exports have fallen and so has average price. Through November, pollock surimi exports totaled 356.1 million pounds, a drop of 12% from the previous year. The per-pound value, however, dropped, albeit by only a penny a pound. Surimi prices are softening, but not by much, suggesting the market is weak but not dead.

The surimi market may strengthen this year, if for no other reason than reduced supplies.

If whiting surimi and fillet prices follow pollock prices, the above analysis indicates that whiting surimi prices in 2007 are likely to stay the same or increase compared to 2006, while fillet prices are likely to continue to increase. The analysis above miss-reports the percentage reduction in Alaska pollock quotas. According to Seafood.Com (March 13, 2007):

As a result, the overall TAC for Alaska will see a decline of 7%, with that for the roe season falling by 1% lower by 8%. Industry observers are watching with caution that, in view of the large size of the quota, the difference of even 1% might significantly affect the production of pollock roe, surimi and fillets in this season.

Tables 17-20 present summary information on the whiting industry, its components, and their levels of activity in the 2000-2006 period.

Table 17 Trends in Number of Processing Plants Consistently Processing Over One Million lbs of Hake Per Year

Year	Number of Processors					Percent of total lbs processed by major processors
	Total	Major Processors	Others	Exit	Enter	
2000	12	8	4			75%
2001	10	8	2	2	0	91%
2002	9	8	1	1	0	90%
2003	9	8	1	0	0	90%
2004	9	8	1	1	1	97%
2005	8	8	0	1	1	100%
2006	13	8	5	0	5	92%

Table 18 Key Pacific Whiting Market Indicators , Landings, Ex-vessels Revenues, and Ex-vessel processed

Year	Ex-vessel Revenue (millions \$)	Percent Change	Landings mt	Landings millions of lbs	Percent Change	Ex-vessel price (\$)	Ex-vessel price percent change
2000	8.0		88,842	195.86		0.041	
2001	5.7	-28%	73,411	161.84	-17%	0.035	-13%
2002	4.6	-21%	45,707	100.77	-38%	0.045	27%
2003	5.5	21%	55,333	121.99	-21%	0.045	0%
2004	7.7	40%	96,364	212.44	74%	0.036	-2-%
2005	12.6	64%	109,395	241.17	14%	0.052	44%
2006	17.4	38%	127,167	280.35	16%	0.062	19%

Table 19. West Coast Exports of Headed and Guttled Pacific Whiting

Year	Export Revenue (millions \$)	Percent Change Export Revenue	Exports millions of kg	Exports millions of lbs	Percent Change Exports Weight	Export price (\$/lb)	Export price percent change
2000	3.7		4.2	9.24		0.400	
2001	14.4	289%	12.9	28.38	207%	0.507	27%
2002	7.5	-48%	6.6	14.52	-49%	0.517	2%
2003	14.9	99%	12.5	27.50	89%	0.542	5%
2004	44.7	200%	38.0	83.60	204%	0.535	-1%
2005	59.2	32%	43.4	95.48	14%	0.620	16%
2006	88.2	49%	55.9	122.98	29%	0.717	16%

Table 20. West Coast Exports of Pacific Whiting Surimi

Year	Export Revenue (millions \$)	Percent Change Export Revenue	Exports millions of kg	Exports millions of lbs	Percent Change Exports Weight	Export price (\$/lb)	Export price percent change
2000	18.2		11.4	25.08		0.726	
2001	28.0	54%	17.4	38.28	53%	0.731	1%
2002	16.8	-40%	9.3	20.46	-47%	0.821	12%
2003	10.6	-37%	5.9	12.98	-37%	0.817	-1%
2004	25.6	142%	16.3	35.86	176%	0.714	-13%
2005	28.5	11%	14.5	31.90	-11%	0.893	25%
2006	6.3	78%	3.2	7.04	-78%	0.895	0%

4.5 Counties Affected by the Pacific Whiting Shoreside Industry

Counties that are actively involved in the Pacific whiting shoreside industry include Pacific County, Washington; Grays Harbor County, Washington; Clatsop County, Oregon; Lincoln County, Oregon; Coos County, Oregon; Del Norte County, California; and Humboldt County, California. These counties tend to have economies that are based on tourism, natural resources, and government. The largest industries reported by the Bureau of Economic Analysis in counties associated with the Pacific whiting shoreside industry are generally forestry, fishing, and other, manufacturing, government and government enterprise, health care and social assistance, accommodation and food services, and retail trade. Industries falling within the forestry, fishing, and other, and manufacturing sectors are largely made up of timber and fishing industry related business, and timber and seafood processing. Food Services, accommodation, and retail trade are largely made up of businesses reliant on the tourism sector.

Readers who are interested in further information on Counties and communities, are referred to Section 7 of the EIS, prepared by the Pacific Fishery Management Council staff, for the Proposed Acceptable Biological Catch and Optimum Yield Specifications and Management Measures for the 2007-2008 Pacific Coast Groundfish Fishery. Copies of the EIS can be obtained from the Pacific Fishery Management Council, by writing to 7700 NE Ambassador Place, Suite 200, Portland, OR 97220-1384; or calling 503 820-2280; or viewing the internet posting at <http://www.pccouncil.org>.

Figures 3 to 5 show annual trends in Pacific whiting harvests, ex-vessel revenues, and ex-vessel prices per ton. (For purposes of determining industry revenues, mothership and catcher-processor harvests have been multiplied by whiting shoreside ex-vessel prices. These figures show the recent increase in landings, revenues and ex-vessel prices. As discussed above, 2005 and 2006, market conditions for Pacific whiting changed dramatically with prices paid to fishermen increasing from an average price of \$ 0.04 per pound (\$88 per ton) in the 1992-2005 period to more than \$ 0.062 per pound (\$143 per ton) in 2006. . Industry projections for 2007 are for prices to increase to \$.08 to \$.10 per pound (\$176 to \$220 per ton).

Figure 3. Total catch (mt) of whiting, 1991-2006

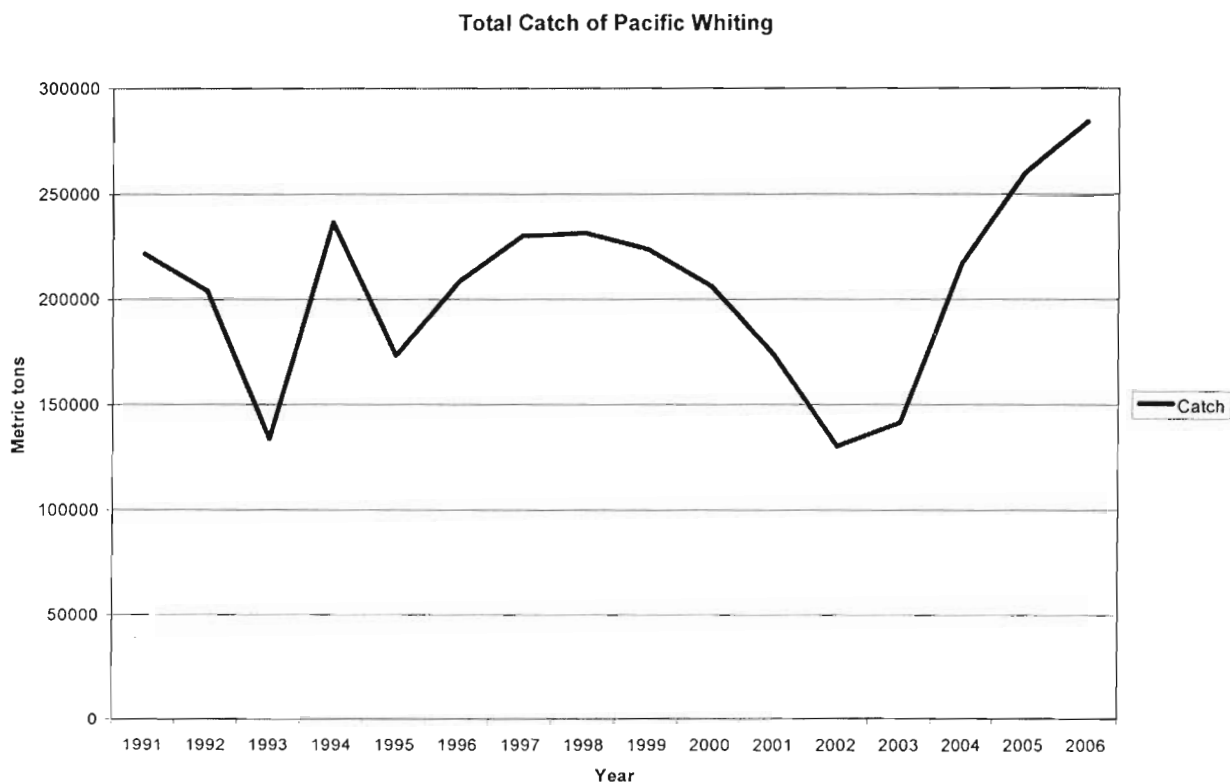


Figure 4. Total exvessel revenue from whiting 1991-2006

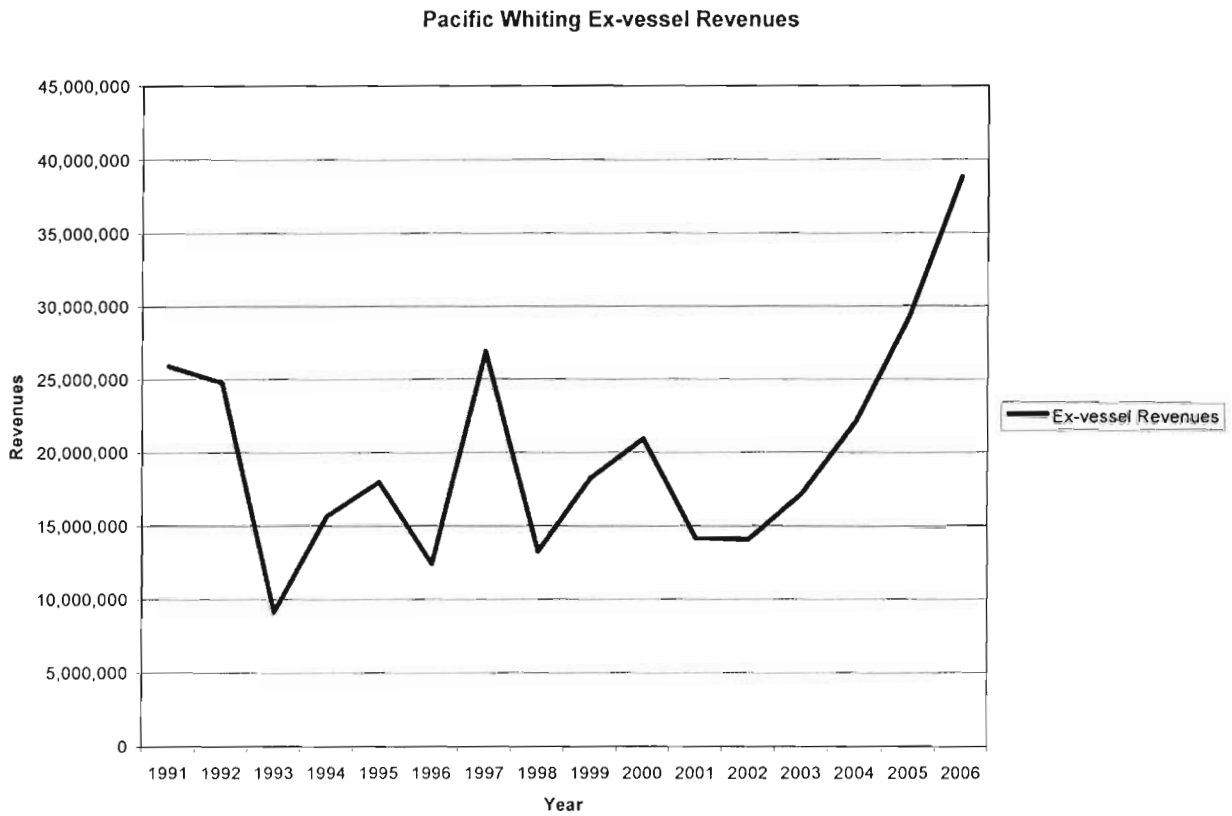
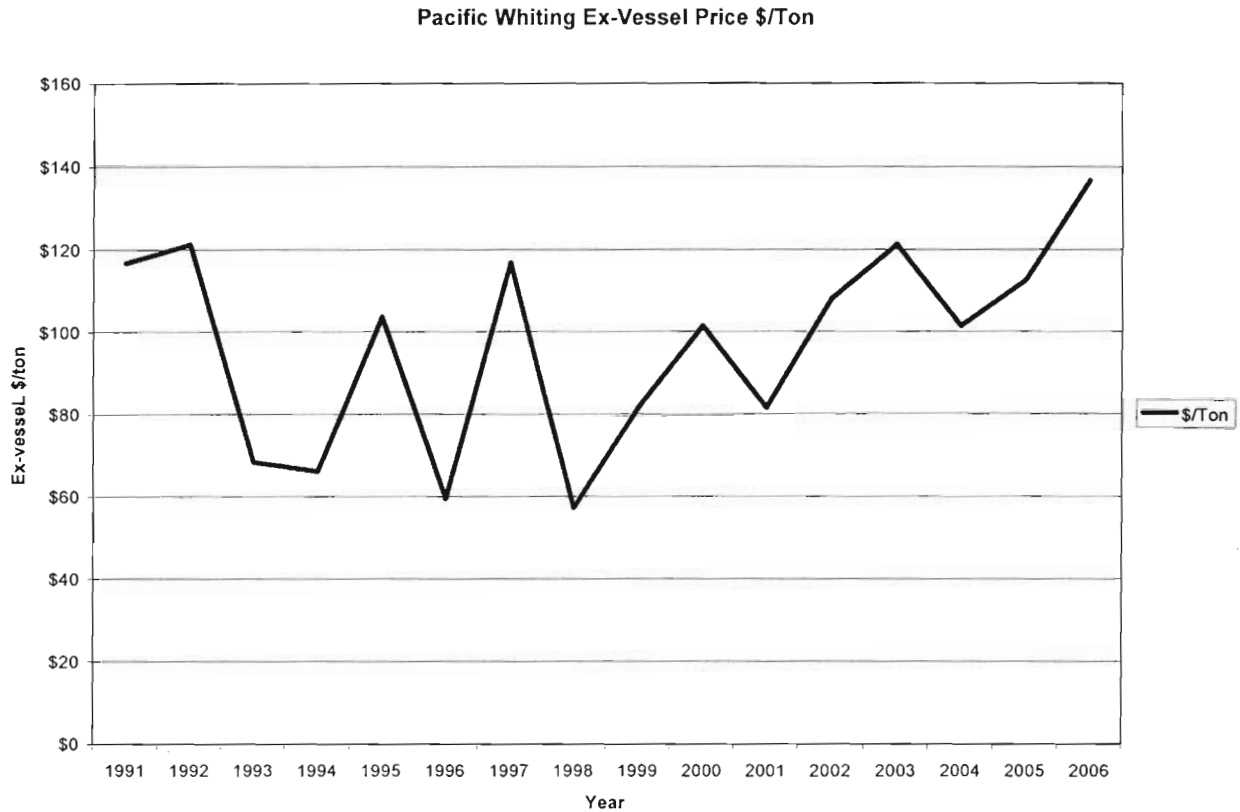


Figure 5. Exvessel price per ton for whiting, 1991-2006



4.6 Management of Pacific Coast Groundfish Fisheries

4.6.1 Groundfish FMP

The Pacific Groundfish Fisheries are managed under the Groundfish FMP, which was developed by the Council and approved and implemented through Federal regulations by the Secretary of Commerce through NMFS.

Under the FMP, the Council determines the Allowable Biological Catch (ABC) for each stock. This is an estimate of the amount of stock that may be harvested each year without jeopardizing the continual sustainability of the resource. The Council and NMFS use the results of quantitative stock assessment to develop annual ABCs for major groundfish stocks. For groundfish species where there is little or no detailed biological data available to develop ABCs, rudimentary stock

assessments are prepared, or the ABC levels are based on historical landings. Species and species groups with ABCs in 2006 included: lingcod, Pacific cod, Pacific whiting, sablefish, cabezon, POP, shortbelly rockfish, widow rockfish, canary rockfish, chilipepper rockfish, bocaccio, splitnose rockfish, yellowtail rockfish, shortspine thornyhead, longspine thornyhead, cowcod, darkblotched rockfish, yelloweye rockfish, Black rockfish, Dover sole, English sole, petrale sole, Arrowtooth flounder, other flatfish, and the minor rockfish complexes.

The Magnuson-Stevens Act requires an FMP to prevent overfishing. Overfishing is defined in the National Standards Guidelines (63 FR 24212, May 1, 1998) as exceeding the fishing mortality rate needed to produce maximum sustainable yield. The term "overfished" describes a stock whose abundance is below its overfished/rebuilding threshold. Overfished/rebuilding thresholds are generally linked to the same productivity assumptions that determine the ABC levels. The default value of this threshold for the groundfish FMP is 25 percent of the estimated unfished biomass level.

4.6.2 Overfished Groundfish Species

Amendment 16-1 set a framework for overfished species rebuilding parameters and requirements into the FMP, and set an initial requirement that NMFS implement an observer program in the groundfish fishery through a Council-approved Federal regulatory framework. Amendments 16-2 and 16-3 revised the FMP to include rebuilding plans for the seven overfished species: bocaccio (south of Monterey), canary rockfish, cowcod (south of Point Conception), darkblotched rockfish, Pacific ocean perch, widow rockfish, and yelloweye rockfish. identified above, plus lingcod. Amendment 16-4, approved December 2006, revised the rebuilding parameters for the seven species currently managed via rebuilding plans.

Amendment 18 to the FMP, approved September 2006, revised the FMP to include the Council's bycatch minimization policies, programs, and requirements. Among other requirements, the FMP as revised by Amendment 18 now includes a detailed discussion of the groundfish fishery's standardized total catch reporting and compliance monitoring program (Section 6.4). At the same time that the Council was developing Amendment 18, it was also taking a look back at Amendment 10 to determine how to move the Pacific whiting shoreside fishery out of EFP management. Amendment 18 includes provisions that facilitate that move to a long-term Federal regulatory structure: parameters for electronic monitoring programs in Section 6.4.1.1, and parameters for full retention programs in 6.5.3.1.

In 1996, the Sustainable Fisheries Act (SFA) amended the Magnuson Fishery Conservation and Management Act (renamed Magnuson-Stevens Fishery Conservation and Management Act). The SFA required that FMPs establish a standardized reporting methodology to assess the amounts and types of bycatch in a fishery, and required that FMPs identify and rebuild overfished stocks. The Council set a standard, added to the FMP via Amendment 16-1, that groundfish stocks with

depletion levels that fall below 25 percent of estimated unfished biomass level are to be considered overfished. As noted, seven stocks continue to be managed under overfished species rebuilding plans: bocaccio, canary rockfish, cowcod, darkblotched rockfish, Pacific Ocean Perch (POP), widow rockfish, and yelloweye rockfish.

4.6.3 Limited Entry

Pacific whiting is a component of the Pacific Groundfish fishery. Other than tribal fisheries and processors, and non-tribal mothership and shore-based processors, the other participants—non-tribal harvesters of whiting (catcher-processors, vessels that fish for motherships, and vessels that fish for shoreplants) must have a limited entry permit. The groundfish limited entry program applies to bottom and midwater trawl, longline, and trap (or pot) gears. Each limited entry permit is endorsed for a particular gear type and that gear endorsement cannot be changed, so distribution of permits among gear types has been fairly stable. Each permit also has a vessel length endorsement. The total number of permits has typically changed only when multiple permits have been combined to create a new permit with a longer length endorsement. However, in December 2003, a buyback program permanently retired 91 trawl permits, roughly 35 percent of the total. None of the general trawl permit or associated vessels were major participants in the whiting fishery as the amounts paid were presumably too low when compared to whiting revenues and Alaska pollock revenues earned by these vessels.

4.7 Management of the Whiting Fishery

4.7.1 International

The whiting stock is shared by the U.S. and Canada within their respective exclusive economic zones. Annual quotas have been the principal management tool to control fishing and maintain the stock at a level that serves both parties well. Scientists from the two countries have collaborated through a Technical Subcommittee of the Canada-U.S. Groundfish Committee, and there has been informal agreement on the adoption of an annual fishing policy. However, during the 1990s, there was disagreement between the U.S. and Canada on the division of the acceptable biological catch and this led to quota overruns. A treaty has now been approved by both countries that establishes a sharing of the coastwide ABC between the countries.

4.7.2 Management of the Domestic Whiting Fishery

Fishing for whiting by U.S. vessels is managed under federal regulations found at 50 CFR Part 660 implementing the Pacific Groundfish FMP. Under the FMP, the Pacific Council manages most groundfish fisheries on a two-year cycle; however, the whiting fishery is managed through annual specification of U.S. OY (based on the treaty requirement), and the bulk of the U.S. OY is

allocated among the three directed fishery sectors (mothership, catcher-processor, and shoreside delivery), with a fishing season structure by area. There is allowance for trip limit fishing for whiting in the groundfish fishery outside the season for the directed fishery sectors.

To allow the whiting industry to have the opportunity to harvest the full Pacific whiting OY, the non-tribal commercial fishery is managed with bycatch limits for certain overfished species. To date, bycatch limits have been established for darkblotched, canary and widow rockfish. With bycatch limits, the industry has the opportunity to harvest a larger amount of whiting, if they can do so while keeping the total catch of specific overfished species within adopted bycatch limits. Regulations provide for the automatic closure of the commercial (non-tribal) portion of the whiting fishery upon attainment of a bycatch limit. This is different from the bottom trawl fishery where harvest availability of target species is often constrained by the projected catch of overfished species.

4.7.2.1 Whiting Fishing Seasons:

The Pacific whiting primary season start dates for each of the three commercial sectors have remained the same since 1997. The primary seasons for the non-tribal mothership and catcher-processor sectors begins May 15. The Pacific whiting shoreside primary season in most of the Eureka area (between 42°- 40°30' N. lat. begins on April 1, and the fishery south of 40° 30' N. lat. begins April 15. The Pacific whiting shoreside fishery north of 42° N. lat. begins on June 15. No more than five percent of the shore-based sector allocation may be taken in the early season fishery off California before the primary season north of 42° N. lat. opens on June 15th. Pacific whiting primary season catch cannot be taken and retained, possessed or landed in closed areas. In recent years, Pacific whiting catch landed in California ports has been loaded on trucks and transported to facilities north of 42° N. lat. in the State of Washington for processing.

4.7.2.2 Applicable Federal Permits, Licenses, or Authorizations for the Shoreside Sector

The shore-based fishery has been primarily managed through the use of exempted fishing permits (EFPs). The Magnuson-Stevens Act provisions at 50 CFR 600.745 allow the issuance of EFPs to authorize fishing activities that would otherwise be prohibited. This approach began in 1992, when significant landings were expected to be harvested by the Pacific whiting shoreside fishery. An observer program was then established in conjunction with the use of EFPs. EFPs allow vessels to engage in activities that are otherwise illegal for the purpose of collecting information that may lead to a management decision or to address specific environmental concerns (50 CFR 600.10 and 600.745.) Each year since 1992, EFPs have been issued to vessels in the Pacific whiting shoreside fishery to allow unsorted catch to be landed. Without an EFP, groundfish regulations at 50 CFR 660.306 (a)(2) and (a)(6) require vessels to sort their catch at sea. Sorting would cause a loss of product quality and increase vessel operating costs. The vessels fishing under the EFPs are required to deliver catch to designated processors. Each designated processor

has a written agreement with the state where they are located that specifies the term of participation. The designated processor agreements require processors to follow more rigorous catch accounting and reporting requirements than those required by existing state law.

Because vessels fishing under the Pacific whiting EFPs are allowed to land unsorted catch, the landings included species in excess of the trip limits, non-groundfish species, protected species, and prohibited species such as salmon that would otherwise be illegal to have on board the vessel. Vessels fishing for Pacific whiting without EFPs must discard as soon as practicable all prohibited species (including salmon and halibut), protected species, non-groundfish species, and groundfish species in excess of cumulative limits.

Unlike the at-sea sectors (catcher/processor and mothership sectors) of the Pacific whiting fishery, where catch is sorted and processed shortly after it has been taken, vessels in the shoreside fishery must hold primary season Pacific whiting on the vessel for several hours or days until it can be offloaded at a shoreside processor. Pacific whiting deteriorates rapidly, so it must be handled quickly and immediately chilled to maintain product quality. This is particularly true if the Pacific whiting is to be used to make surimi (a fish paste product). The quality or grade of surimi is highly dependent on the freshness of the Pacific whiting, which demands careful handling and immediate cooling or processing for the fishery to be economically feasible. Because rapid cooling can retard flesh deterioration, most vessels prefer to dump their unsorted catch directly below deck into the refrigerated salt water tanks. However, dumping the unsorted catch into the refrigerated salt water tanks precludes the immediate sorting or sampling of the catch. As a primary season fishery, fishers prefer to quickly and efficiently handle the catch so they can return to port for offloading.

The Shoreside Whiting Observation Program (SHOP), is a coordinated monitoring effort by the States of Oregon, Washington, and California. The SHOP was initially established in 1992 to provide oversight to the EFP activities including: coordination of observer sampling, the collection other necessary catch data, and the transmission of summarized catch data to NMFS. Although the program's structure and priorities have changed over the years and observers are no

longer used, the SHOP has maintained the primary responsibility of monitoring EFP activities and for providing catch data collected at the processing facilities to NMFS for management of the fishery. NMFS will administer this program beginning in 2007.

4.7.2.3 Bycatch and Related Considerations in Whiting Management

Management of the whiting fishery has been complicated due to the bycatch of overfished rockfish and salmon. To allow the whiting industry to have the opportunity to harvest the full Pacific whiting OY, the non-tribal commercial fishery is managed with bycatch limits for certain overfished species. To date, bycatch limits have been established for darkblotched, canary and widow rockfish. With bycatch limits, the industry has the opportunity to harvest a larger amount of Pacific whiting, if they can do so while keeping the total catch of specific overfished species within adopted bycatch limits. Regulations provide for the automatic closure of the commercial (non-tribal) portion of the Pacific whiting fishery upon attainment of any rockfish bycatch limit. This is different from the bottom trawl fishery where harvest availability of target species is often constrained but not absolutely controlled by the projected catch of overfished species.

4.7.2.3.1 Rockfish Bycatch Limits

The 2007 bycatch limits are depicted in Table 21 which is typically referred to as the “Bycatch Scorecard” For 2007, the limited entry trawl-whiting fleet (non-tribal whiting harvesters) has bycatch limits of 4.7 mt of canary, 25.0 mt of darkblotched rockfish, and 208.0 mt of widow rockfish. Note that other fisheries such as the limited entry fixed gear, open access fisheries, tribal fisheries (whiting and non-whiting) and recreational fisheries also depend on these species. Therefore, if the limited-entry trawl-whiting fleet exceeds its limits, other fisheries will be affected. Table 21 presents the estimated overfished rockfish mortality estimates used by the Council in formulating its 2007-2008 conservation and management measures, consistent with the overfished stock rebuilding plans in place. The amounts set for the whiting fishery can be seen to be very low.

Table 21. Estimates of overfished rockfish bycatch mortality by groundfish fishery sectors for 2007 based on 2007 conservation and management measures

2007 Projected mortality impacts (mt) under current regulations. March 2007 update. a/

Fishery	Bocaccio	Canary	Cowcod	Dkbl	POP	Widow	Yelloweye
Limited Entry Trawl- Non-whiting	47.9	20.0	2.1	194.3	71.6	1.6	0.1
Limited Entry Trawl- Whiting							
At-sea whiting motherships					1.0		0.0
At-sea whiting cat-proc		4.0		25.0	2.9	220.0	0.0
Shoreside whiting					1.8		0.0
Tribal whiting		0.7		0.0	0.6	2.3	0.0
Tribal							
Midwater Trawl		1.8		0.0	0.0	40.0	0.0
Bottom Trawl		0.8		0.0	3.7	0.0	0.0
Troll		0.5		0.0	0.0		0.0
Fixed gear		0.3		0.0	0.0	0.0	2.3
Limited Entry Fixed Gear		1.2		1.3	0.4		2.9
Sablefish	13.4		0.0			0.0	
Non-Sablefish			0.1			0.5	
Open Access: Directed Groundfish		1.0					
Sablefish DTL	0.0			0.2	0.1	0.0	0.5
Nearshore (North of 40°10' N. lat.)	0.0	1.8	0.1	0.0	0.0	0.1	2.0
Nearshore (South of 40°10' N. lat.)	0.0			0.0	0.0		
Other	10.6			0.0	0.0	0.0	0.1
Open Access: Incidental							
CA Halibut	0.1	0.0		0.0	0.0		
CA Gillnet c/	0.5			0.0	0.0	0.0	
CA Sheephead c/				0.0	0.0	0.0	0.0
CPS- wetfish c/	0.3						
CPS- squid d/							
Dungeness crab c/	0.0		0.0	0.0	0.0		
HMS b/		0.0	0.0	0.0			
Pacific Halibut c/	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pink shrimp	0.1	0.1	0.0	0.0	0.0	0.1	0.1
Ridgeback prawn	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Salmon troll	0.2	0.8	0.0	0.0	0.0	0.3	0.2
Sea Cucumber	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spot Prawn (trap)							
Recreational Groundfish e/							
WA		5.7					6.2
OR						1.4	
CA	98.0	8.3	0.4			8.0	1.7
Research: Includes NMFS trawl shelf-slope surveys, the IPHC halibut survey, and expected impacts from SRPs and LOAs. f/							
	2.0	7.5	0.1	3.8	3.6	0.9	2.0
TOTAL	173.2	54.5	2.8	224.7	85.7	275.2	18.2
2007 OY	218	44.0	4.0	290	150	368	23
Difference	44.8	-10.5	1.2	65.4	64.3	92.8	4.8

Percent of OY	79.4%	123.9%	70.0%	77.5%	57.1%	74.8%	79.0%
Key							

a/ All numbers reflect projected annual total catches except that the non-tribal "Limited Entry Trawl- Whiting" numbers are the total bycatch caps for canary, darkblotched, and widow rockfish.

b/ South of 40°10' N. lat.

c/ Mortality estimates are not hard numbers; based on the GMT's best professional judgment.

d/ Bycatch amounts by species unavailable, but bocaccio occurred in 0.1% of all port samples and other rockfish in another 0.1% of all port samples (and squid fisheries usually land their whole catch).

e/ Values in scorecard represent projected impacts. However, harvest guidelines for 2007 are as follows: canary in WA and OR combined = 8.2 mt and in CA = 9.0 mt; yelloweye in WA and OR combined = 6.8 mt and in CA = 2.1 mt.

f/ Research projections only updated for canary rockfish in November 2006. The other species' updates will be updated

4.7.2.3.2 Management to Address Salmon Bycatch

Management of the salmon and groundfish fisheries has also changed substantially since the early 1990's to address salmon bycatch issues. Since 1992, new salmon evolutionarily significant units (ESUs) have been listed under the ESA. In 1996, to address the treatment and disposition of salmon in the shore-based sector of the Pacific whiting fishery, an EA was prepared to analyze amendments to both the groundfish FMP (FMP Amendment 10) and salmon FMP (FMP Amendment 12). The 1996 EA analyzed two management alternatives regarding the retention of salmon taken with groundfish trawl gear. The first alternative was to maintain the then current salmon and groundfish FMPs, under which retention of salmon in the groundfish trawl fisheries would not have been permitted and the practice of retaining salmon in the Pacific whiting shoreside fishery was only authorized under an EFP. The second and preferred alternative was to maintain salmon as a prohibited species in the groundfish FMP and add trawl gear to the list of gears that may retain salmon if allowed under other pertinent regulations such as salmon fishing regulations at 50 CFR Part 660, Subpart H. The preferred alternative also included a provision for the salmon FMP to be amended to allow retention of salmon in the trawl fishery when a Council approved monitoring program, one that meets certain minimum guidelines, was established in the Pacific whiting shoreside fishery (PFMC 1996). At their October 21 - 25, 1996, meeting the Council recommended the preferred alternative, including the temporary use of EFPs to monitor the incidental take of salmon until a permanent monitoring program could be implemented. Both the salmon and groundfish FMPs were amended to include the provisions of the preferred alternative.

NMFS has issued Biological Opinions under the ESA pertaining to the effects of the Pacific Coast groundfish FMP fisheries on Chinook salmon on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999. The Biological Opinions have concluded that Chinook is the salmon species most likely to be affected, while other salmon species are rarely encountered in the Pacific whiting and other groundfish fisheries. The analysis determined that there was a spatial/temporal overlap between the whiting fishery and the distribution of ESA listed Chinook salmon such that it could result in incidental take of listed

salmon. The 1992 Biological Opinion included an incidental take statement that authorized the incidental take of 0.05 salmon per metric ton of Pacific whiting. The Biological Opinion identified the need for continued monitoring of the fishery to evaluate impacts on salmon, and specifically emphasized the need to monitor the emerging shoreside fishery because fishing patterns and bycatch rates were likely to differ from those observed on the at-sea processors.

NMFS reinitiated a formal Section 7 consultation under the ESA in 2005 for both the whiting midwater trawl fishery and the groundfish bottom trawl fishery. The December 19, 1999, Biological Opinion had defined an 11,000 Chinook incidental take threshold for the Pacific whiting fishery. During the 2005 Pacific whiting season, more than 11,000 Chinook were taken, triggering reinitiation. NMFS prepared a Supplemental Biological Opinion dated March 11, 2006, which addressed salmon take in both the Pacific whiting midwater trawl and groundfish bottom trawl fisheries. In that Supplemental Biological Opinion, NMFS concluded that catch rates of salmon in the 2005 Pacific whiting fishery were consistent with expectations considered during prior consultations. Chinook bycatch has averaged about 7,300 fish over the last 15 years and has only occasionally exceeded the reinitiation trigger of 11,000. Since 1999, annual Chinook bycatch has averaged about 8,450 fish. The Chinook ESUs most likely affected by the Pacific whiting fishery have generally improved in status since the 1999 Section 7 consultation. Although these species remain at risk, as indicated by their ESA listing, NMFS concluded that the higher observed bycatch in 2005 does not require a reconsideration of its prior "no jeopardy" conclusion with respect to the fishery. For the groundfish bottom trawl fishery, NMFS concluded that incidental take in the groundfish fisheries is within the overall limits articulated in the Incidental Take Statement of the 1999 Biological Opinion. The groundfish bottom trawl limit from that opinion was 9,000 fish annually. NMFS will continue to monitor and collect data to analyze take levels. NMFS also reaffirmed its prior determination that implementation of the Groundfish FMP is not likely to jeopardize the continued existence of any of the affected ESUs.

4.7.2.3.2 Recent Salmon and Overfished Bycatch Trends in the Whiting Fishery.

Recent bycatch trends in salmon and overfished species are depicted in Figures 6-18. These figures show by sector the weekly harvest of whiting and the associated bycatch rates. These estimates were developed based on shorebased information developed by the ODFW Shoreside Hake Observation Program (SHOP) (See <http://www.dfw.state.or.us/MRP/hake/Main%20Pages/SHOP%20Publications/>) and on catcher-processor and mothership information developed by the NWR Sustainable Fisheries Division. Data on these sectors was reviewed and organized according to comparable weeks. Weekly data reported for the shorebased sector is reported according to weeks ending on a Sunday and the at-sea weekly data is reported on weeks ending on a Tuesday. In this analysis, weeks in the season are counted from the April 1 start date of the California primary whiting season. So for example, for the shoreside sector week 11 in 2006 ended on Sunday, June 10th whereas week 11 for at-sea sectors ended Tuesday, June 13. Except for Figure 6 which shows weekly catch of whiting for the

shorebased sector starting with the first week, all other graphs start with week 7, which is associated with the start date of at-sea sector May-15 and ends with week 32, which is associated with latest week in the year that any sector fished-- the catcher-processor fleet in 2004--over the 2004-2006 period. As the California primary season is not covered by this emergency rule and only accounts for 5% of the whiting catch, the shorebased sector figures show trend lines that start with week 12 which is associated with the major primary shoreside season that starts June 15th.

Each figure shows the weekly trends for 2004, 2005, and 2006. As an indicator of an “average” trend, weekly data for all three years were added up into three year totals and then divided by the three year total of weekly whiting catch. It should be noted that over the period, the number of weeks fished by each sector the seasons varied, so in some instances, the three year average may only reflect only one week of operation. Estimates of salmon bycatch are in numbers of fish; the total number of salmon in the shorebased sector and the total number of Chinook salmon in the at-sea sectors. (Almost all of the salmon bycatch in the shorebased sector is Chinook salmon—in 2005 and 2006, Chinook salmon made up at least 97% of the total shoreside bycatch of salmon.) Because of scale effects (whiting in 1000’s of metric tons, salmon in hundreds of fish, widow rockfish in tons, and canary rockfish and other bycatch in tenths of a ton), each sector has four figures associated with it: weekly catches of whiting (Figures 6, 11, and 15), salmon bycatch harvest rates (Figures 7, 8, and 12), widow bycatch rates (Figures 9, 13, and 17), and “non-widow” overfished species bycatch rates (Figures 10, 14, and 18). This last figure reflects the bycatch rates of total catch of the other overfished species (canary rockfish, darkblotched rockfish, lingcod, pacific ocean perch, bocaccio rockfish and yelloweye rockfishes) to see if there are any overall seasonal trends because individually the weekly amounts are too small and too sporadic for trend analysis.

Generally speaking, for all sectors, bycatch rates of salmon, widow and “non-widow” overfished species tend to decline over the season—either in all three years or in at least two of the three years. For perspective, Figure 7 shows shorebased salmon harvests over the 1992-2005 season, and may provide a better reflection of the major weekly trends in salmon bycatch rates for this sector (Figure 7 is adapted from the SHOP 2005 Annual Report-see <http://www.dfw.state.or.us/MRP/hake/Main%20Pages/SHOP%20Publications/>). Figure 10 shows trends in the shorebased sector weekly catch rates for non-widow species bycatch rates. Although 2004 and 2006 trends decline over the year, the strength of the 2005 trend pulls the “2004-2006 average upwards. Mothership bycatch rates tend to peak several weeks after the at-season start date at week 11 but do decline afterwards. A similar pattern exists for the bycatch rates of widow in the mothership sector. For the catcher processor sector, the “2004-2006” average shows declining trends over the season, but there are individual years where there is a peak that occurs after the season start date (Chinook-2004, widow-2006, non-widow overfished-2004 and 2006). For both at-sea sectors bycatch rates are lower in the fall in comparison to the May-June period.

Figure 6

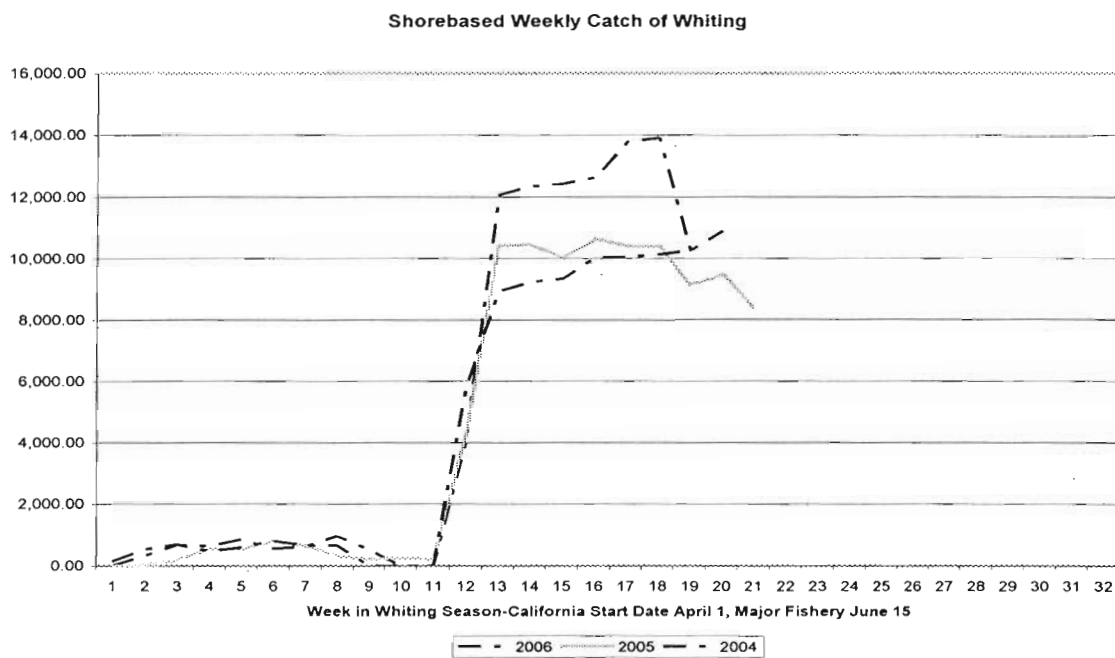


Figure 7

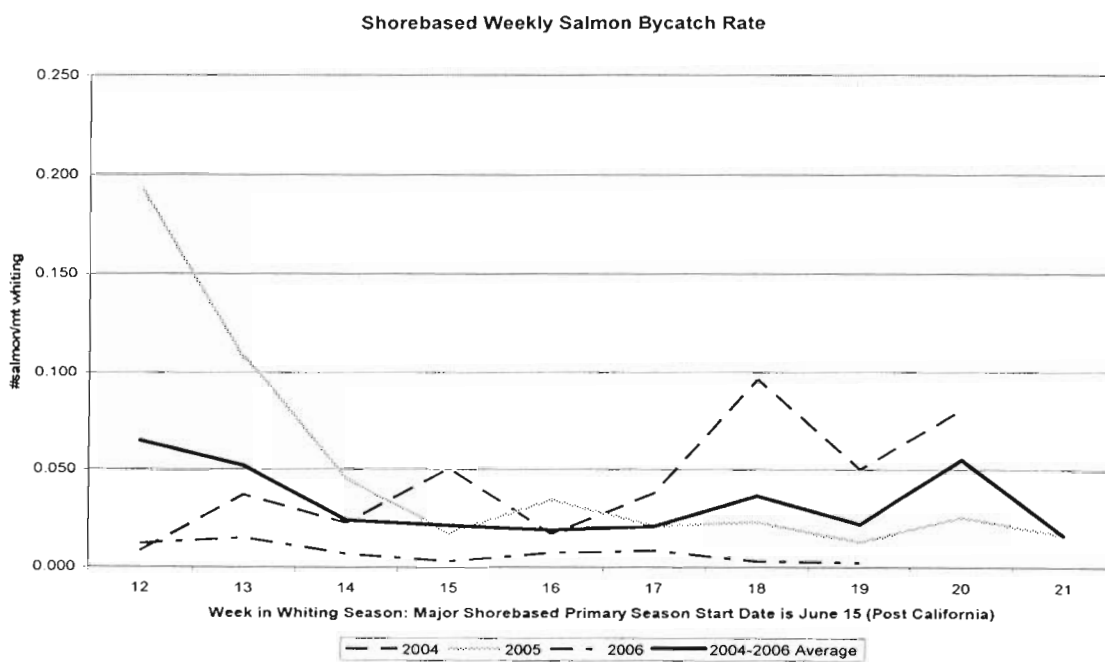


Figure 8 Weekly 2005 rate of salmon bycatch in shoreside whiting fishery compared to average salmon bycatch rate, 1992-2004

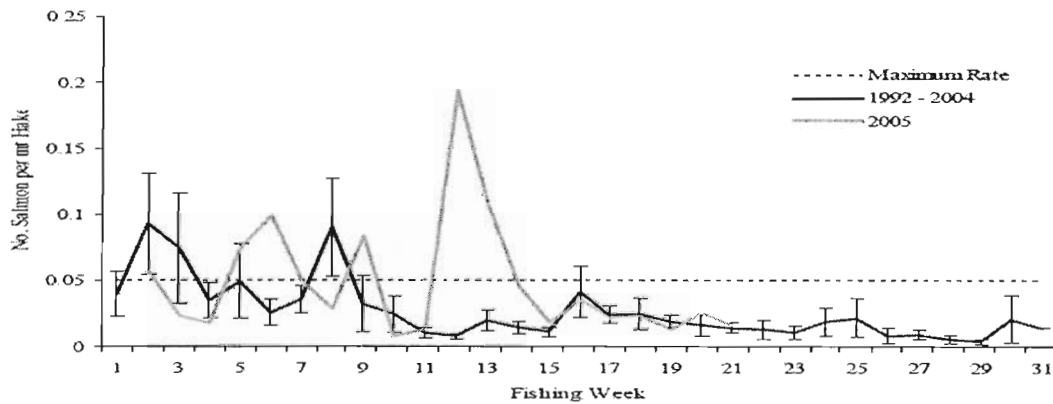


Figure 6. Weekly bycatch rate of salmon in the 2005 shoreside hake fishery compared to average rates (\pm SEM) for 1992-2004.

Note: Maximum rate is stipulated by the 1996 NMFS Biological Opinion (NMFS 1996)
The primary season opened on 15 June 2005, in Week 12

(Adapted from "Progress Reports 2005, Fish Division, Oregon Department of Fish and Wildlife, 2005 Shoreside Hake Observation Program,
<http://www.dfw.state.or.us/MRP/hake/Main%20Pages/SHOP%20Publications/>)

Figure 9

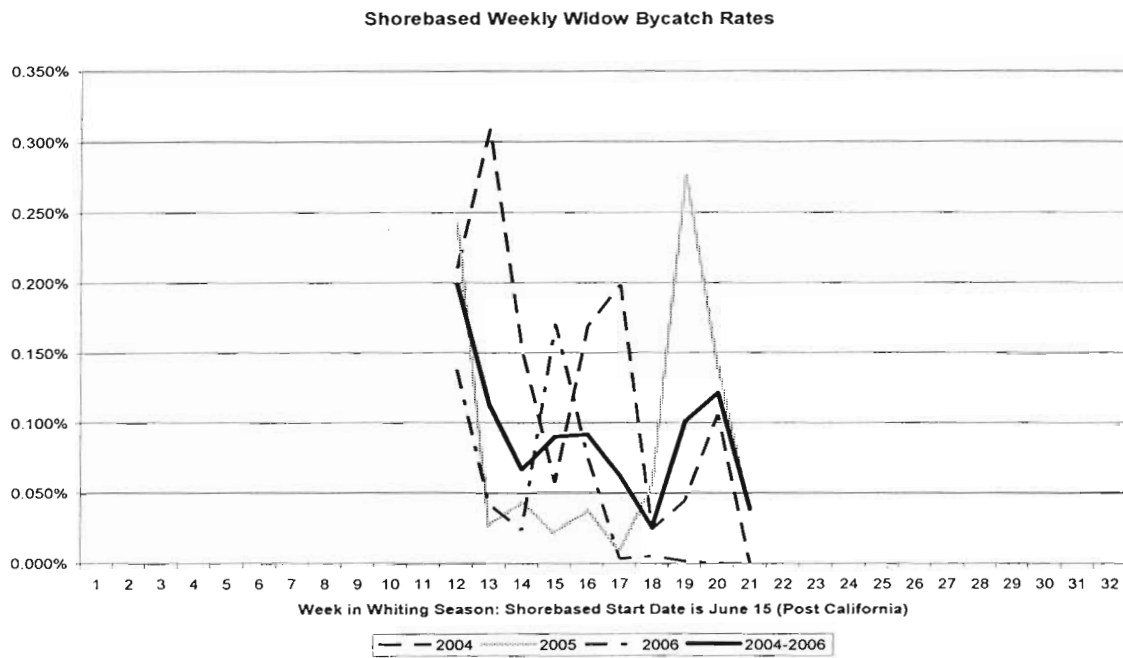


Figure 10

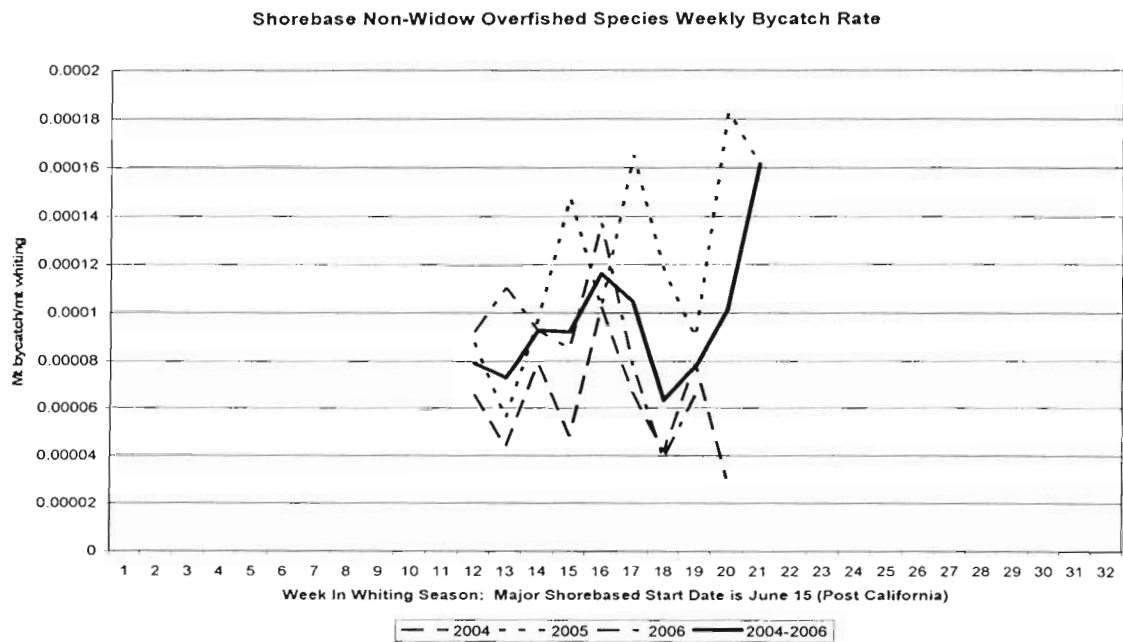


Figure 11

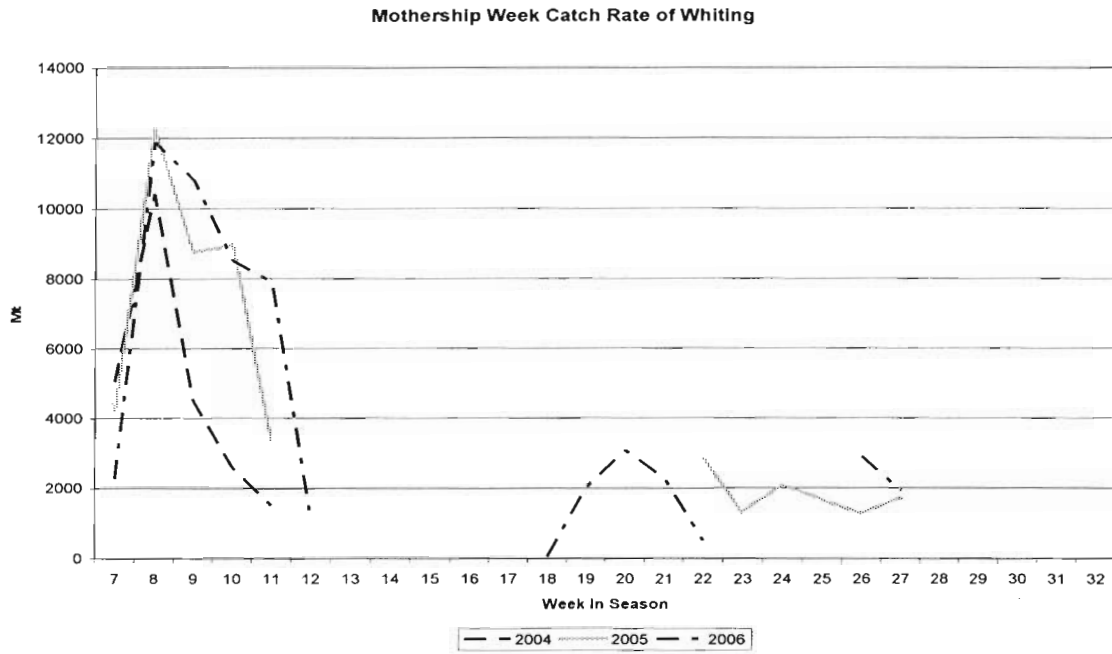


Figure 12

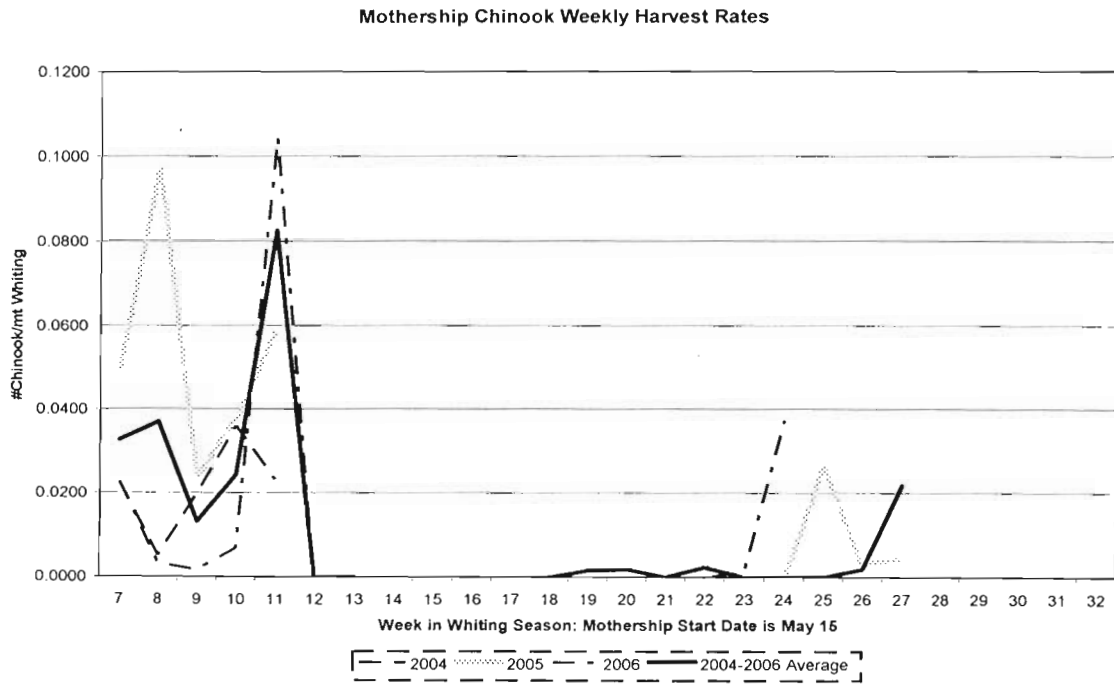


Figure 13

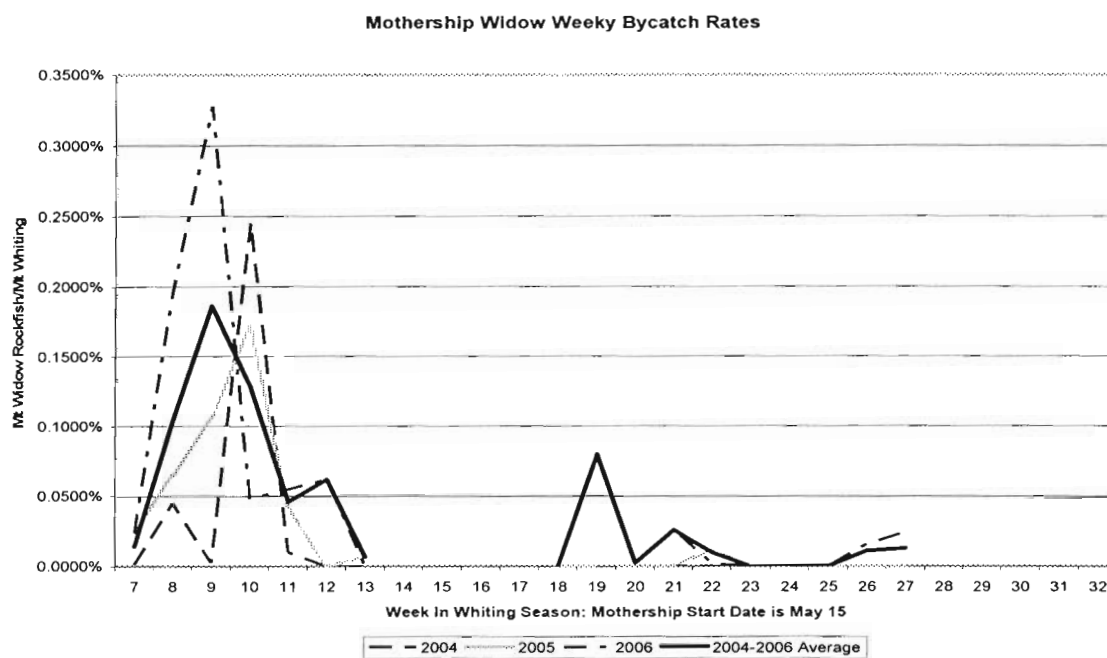


Figure 14

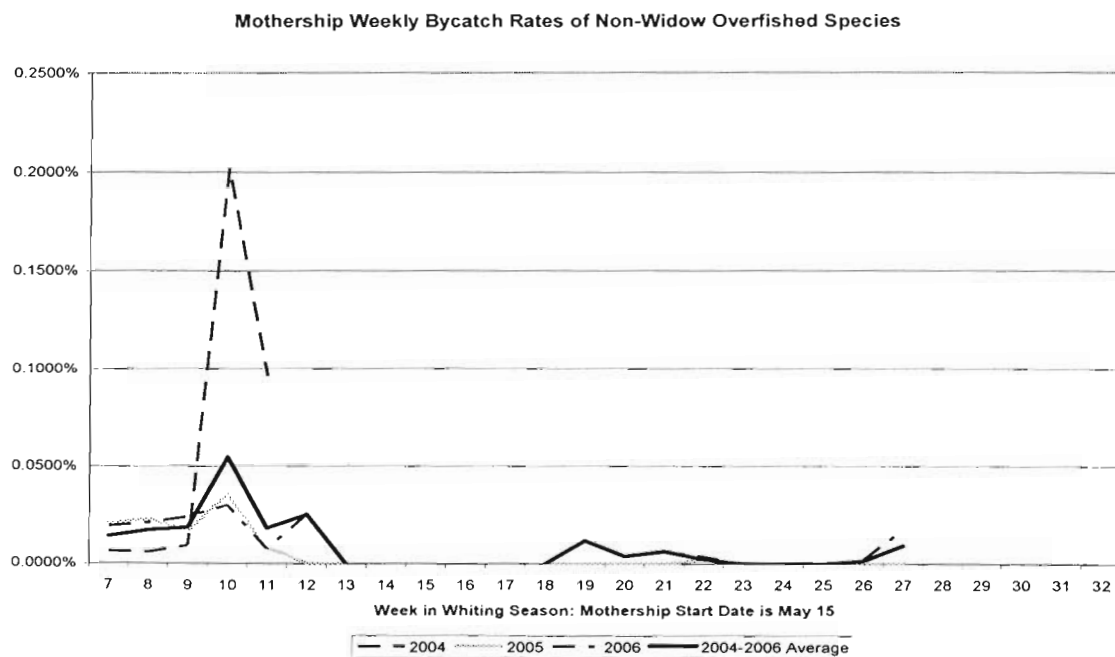


Figure 15

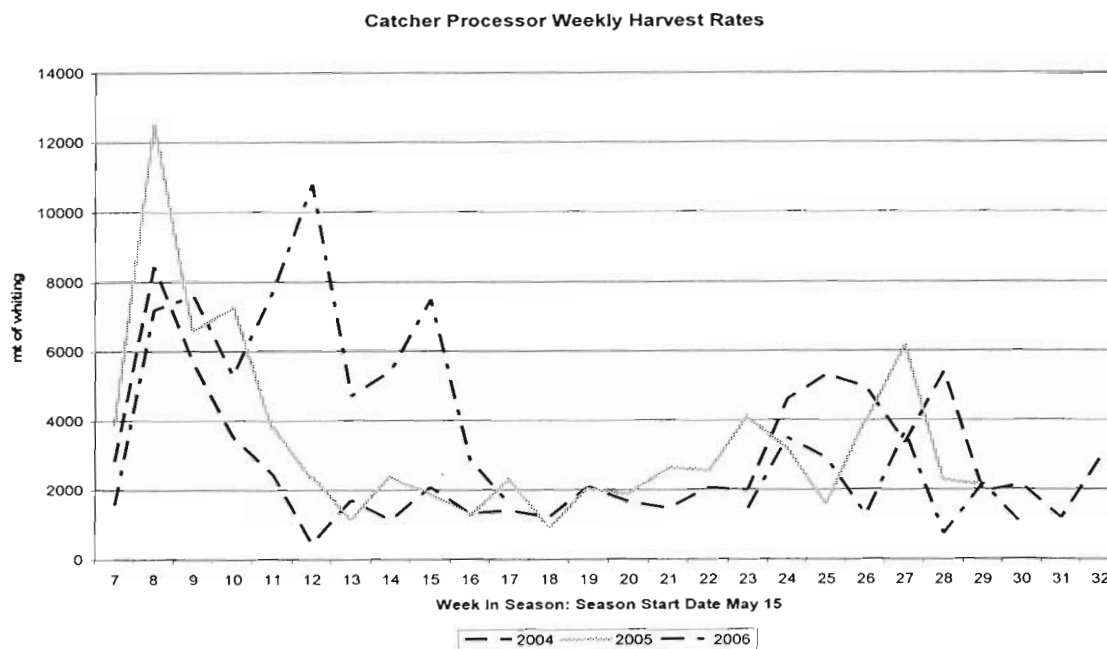


Figure 16

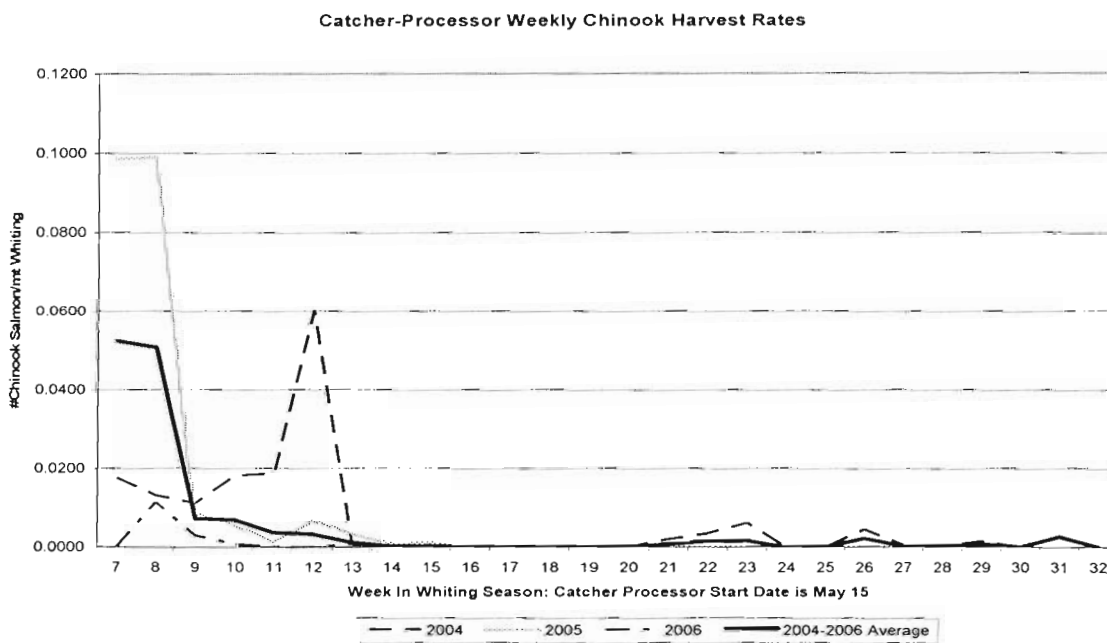


Figure 17

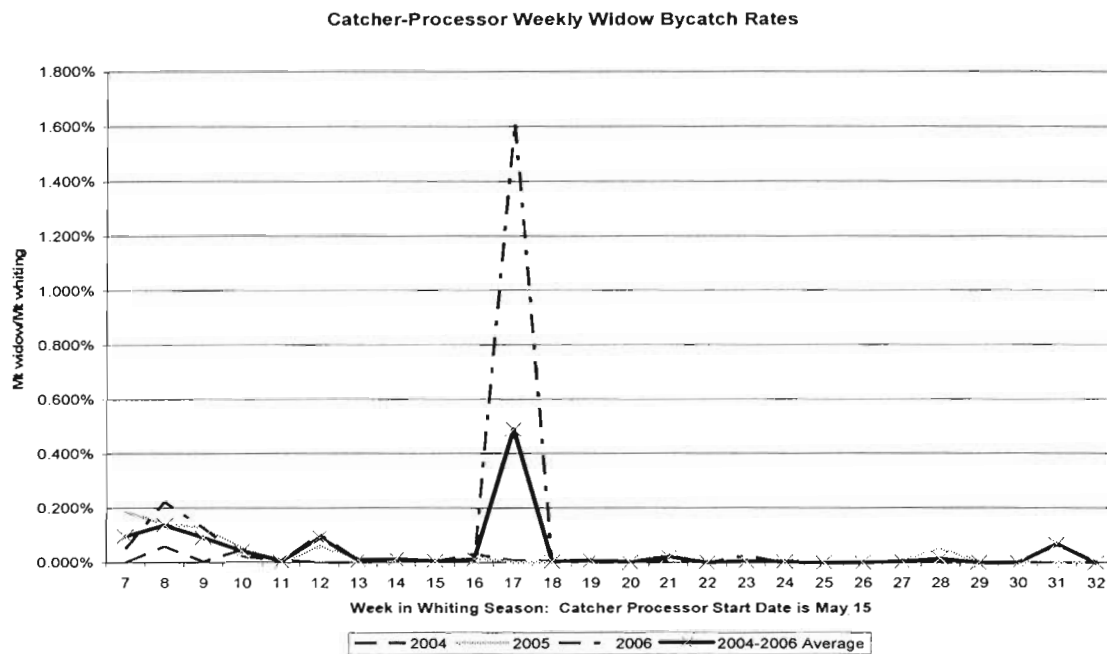
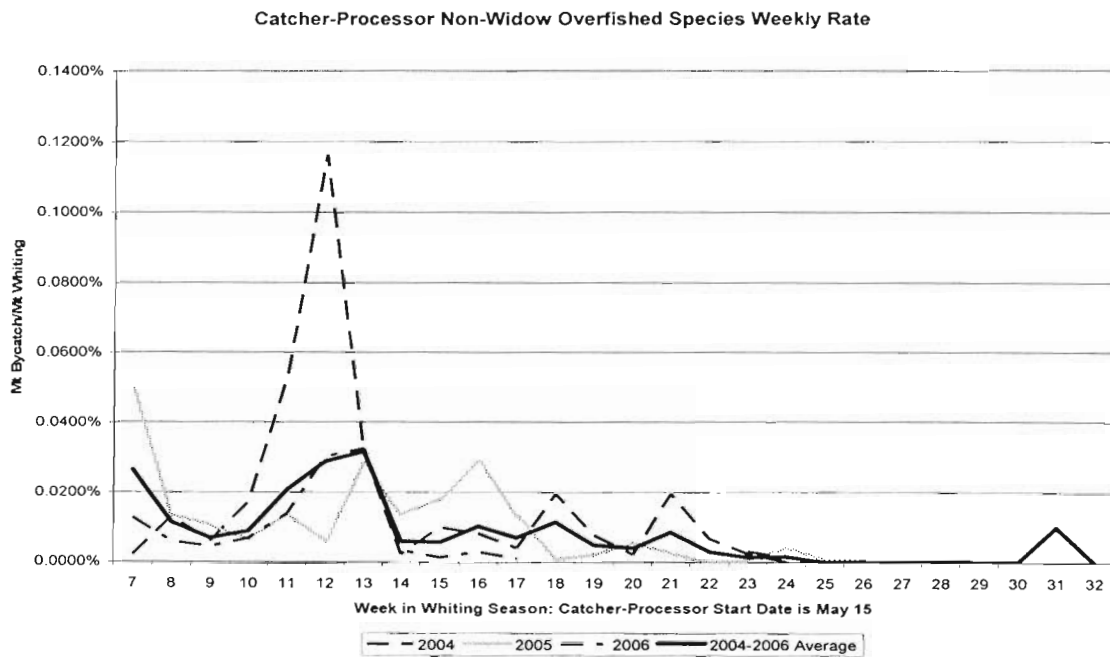


Figure 18



4.8 Essential Fish Habitat

Essential fish habitat has been established for groundfish, including whiting (NMFS, 2005). In the interest of protecting rockfish, large rockfish conservation areas (RCAs) have been established off the coast in which groundfish fishing is either prohibited or severely curtailed. This action will not affect those designations. Whiting fishing may be limited or prohibited in order to ensure that whiting fishing does not nullify the intent of the RCAs.

5.0 PROPOSED ACTION AND ALTERNATIVES AND THEIR IMPACTS

5.1 Management Issues

5.1.1 Conservation

The first and foremost issue is to ensure that the Pacific whiting fishery does not have excessive bycatch of overfished rockfish stocks which would severely and adversely affect rockfish and could result in even more restrictive controls on groundfish fishing by non-whiting sectors. As noted, the Council has established very low limits on bycatch in the Pacific whiting fishery, and it is known from both fishing observations and research that there can be occasional (and rare) tows with very high bycatch levels. It is known that bycatch of rockfish is more likely when whiting are pursued relatively closer to shore in the spring, as whiting congregate for spawning. Similarly, as shown in the figures above, bycatch of salmon (which may be from evolutionarily significant units listed as threatened or endangered under the ESA) is much higher in the spring than in the summer and fall. Under the industry agreement now in place for the at-sea sector, there is very limited fishing in nearshore waters in the spring; the industry prefers to fish later in the year, when bycatch rates are lower and the fish are of higher quality (larger fish and better meat quality). By regulation, over ninety-five percent of the fishing by the shoreside sector occurs after June 15 each year. The Council would like to maintain this fishing pattern during 2007.

The concern is that new entry into the fishery would likely result in a shift in fishing patterns, with much higher probability of intensive fishing in the early season in a race to maximize shares of the available harvest. There is reason to expect that new entry would be even more likely in 2007 than in 2006 when four new factors are considered. First, the price for whiting continues to increase to unprecedented levels; ex-vessel prices have increased from \$77 per ton in 2004 to \$137 per ton in 2006 – nearly doubling since 2004, and increasing in 2006 by 22 percent compared to 2005. Industry projections are that prices will continue to increase to over \$176 per ton in 2007. Second, the U.S. OY of whiting in 2007 is ten percent lower than in 2006, meaning that there is less product available to the fleets. Third, because of unexpectedly higher than projected rockfish bycatch rates, the council took action in March that placed more severe constraints on non-whiting groundfish fishing. Fourth, the quota for Alaska pollock in 2007 is

lower than in 2006. All of these very recent changes increase the chance of an accelerated race for fish in the whiting fishery in 2007: the first, by making whiting a more attractive target; the second, by leading to more pressure on the fleet to capture a decent share of the produce early in the season so as not to risk losing opportunities later in the year; and the third and fourth, by increasing the relative attractiveness of the whiting fishery compared to alternatives. If an accelerated race for fish were to occur, leading to high levels of bycatch, there could be premature closure of the whiting fishery (achieving a rockfish bycatch limit will mean closure of the whiting fishery) before the full whiting quota is harvested. In addition, if the excess of rockfish bycatch was large, the impact could spread to other portions of the coastwide groundfish fishery, not just the whiting fleet. Excessive levels of bycatch could force the Council to impose further controls on other groundfish fishery sectors to ensure that total rockfish catch limits remain within limits set under rebuilding plans for overfished rockfish species.

It should be noted that Pacific whiting undertake a diurnal vertical migration and tend to form extensive midwater aggregations during the day, these dense schools occur between the depths of 100 and 250 meters (Stauffer 1985). Because Pacific whiting disperse throughout the water column at dusk and remain near the surface at night, fishing has traditionally occurred during the daylight hours. The results of fishing on concentrated midwater schools results in almost pure catches of Pacific whiting, with incidental catch typically amounting to less than three percent of the total catch by weight. Knowledge and experience in the fishery supports application of careful fishing practices to avoid fishing at the wrong times when bycatch is more likely to be high. New participants in the whiting fishery would be less likely to have this knowledge or to apply it carefully.

5.1.2 Protection of Sensitive Species

Under the Endangered Species Act (ESA), several evolutionarily significant units (ESUs) of salmon and steelhead have been listed as threatened and endangered. A high level of observer coverage has provided documentation that incidental takes of Chinook salmon occur in the Pacific whiting fishery. Many Pacific Chinook salmon are in listed ESUs. This has led to conduct of Section 7 consultations under the ESA on the impacts of whiting fishing on these ESUs and the ultimate preparation of biological opinions with incidental take statements that among other things set forth the incidental take allowance for salmon in the Pacific whiting fishery. A consultation threshold has been established for an ESA-listed Chinook salmon take of 11,000 or more fish in the whiting fishery. This level was breached in 2005, resulting in the preparation of a supplemental biological opinion to re-examine the effects of take in the whiting fishery on the continued existence of the listed species and to propose mitigation measures to reduce take in the future. NOAA (2006) presents information on the historic levels of take of salmon in the whiting fishery (section ES.3.3) and concludes that, at the levels of fishing contemplated for 2007-08, it is anticipated that the take of salmon will remain within the historic range. It is noted that the

authority to impose Ocean Salmon Conservation Zone restrictions is built into the management program.

If there were no change in the whiting fishery in 2007, this remains the likely conclusion. However, if there were new entry and this were to lead to intensive fishing early in the season, then the conclusions would likely be different. Salmon bycatch rates are much higher early in the year than later in the year. Early season fishing tends to occur closer to shore where whiting are concentrated for spawning. This coincides with areas of greater salmon concentration. Therefore, intensive early season fishing for whiting could be expected to result in significantly higher catches of salmon, and quite possibly in excess of the 11,000 fish threshold. If greatly in excess of the threshold, the impacts on one or more ESUs could be severe. Even if not in excess of the threshold, NMFS might be forced to implement the Ocean Salmon Conservation Zone early in the year, to the detriment of fishers who do not have the range to fish farther from shore. Though there might not be a “jeopardy” situation for any ESU, the situation would still be problematic.

5.1.3 Fishery Stability

In many fisheries, once a fishery is relatively stable and most of the participants know each other, there is a considerable amount of communication among fishermen. This is the case in the whiting fishery. This communication happens throughout the season but it is crucial that it occur in the whiting fishery both before the season and during the early weeks after the opening. This is because both the target species – whiting - and the non-target species - salmon and overfished rockfish - are highly mobile. In the early weeks of the season, when fishing has been light in recent years, fishermen share information on the presence and absence of bycatch species. This allows fishing to be focused in areas with the greatest chance to catch whiting in high quantities and the lowest chance of catching salmon or overfished rockfish. Much of this communication in the early season occurs because the whiting fishery has been relatively stable in recent years with the participants well known to all involved. The potential for additional entrants could upset this informal early season communication process, leading to higher bycatch rates as the fishing parties do not share information about the times/areas in which bycatch is high. Further, as the communications breaks down, there is additional pressure to speed up fishing just in case the competing vessels are increasing their fishing pressures; otherwise, there is a perceived risk that the vessel will not catch a reasonable share of the fish before the overall quota is reached or a bycatch limit is reached. With increased pressure to fish intensively, there is increased likelihood that there will be high bycatch and early closure of the whiting fishery, and possibly future reductions in other groundfish fishery sectors in response to excessive rockfish bycatch levels. In short, the fishery would likely become quite unstable if there were new entry to the fishery and a loss of industry cooperation and communication.

In proposing this rule, proponents noted this prospect of instability from an additional perspective, with special reference to the shoreside fishery and the threat that was posed by new entry. They

noted that the fishery had been open as many as 60 days in 2004 with 26 active vessels, and 64 days in 2005 with 29 active vessels, but only 45 days in 2006 with 37 active vessels. Knowing that the available whiting quota is lower in 2007 than in 2006, the proponents pointed out that the season could be further truncated if more vessels enter the fishery and the fishery is even more intense early in the season. In turn, the shoreside processing plants would face a much shorter season of available product, and a very high probability of much less employment in coastal communities that are highly dependent on fishing for a large portion of their income.

5.2 Proposed Action

The emergency rule has three elements:

1. A vessel without a history of sector-specific participation in the whiting fishery prior to January 1, 2007, would be prohibited from participating in that sector of the fishery in 2007.
2. A person who invested in 2006 in the purchase of multiple groundfish trawl fishery limited entry permits to aggregate them into a single permit, consistent with the regulations implementing the limited entry program, for use in the Pacific whiting fishery in 2007, would be permitted to disaggregate that permit up to the number of permits originally purchased in 2006.
3. A person who transferred a permit to a “prohibited” vessel would be allowed to re-transfer that permit to an eligible vessel notwithstanding the prohibition on multiple permit transfers in a single year.

5.3 Impacts of the Proposed Action

5.3.1 Effects on Whiting

This alternative would not have significantly different impacts on whiting than the status quo. Under this alternative, the whiting stock is expected to remain within the levels anticipated in the Council’s specification of the 2007 acceptable biological catch and U.S. OY. The fishery would be constrained to the overall whiting OY level in 2007. It is more likely under this alternative that this would result in an increase in the absolute number of fish killed. The fishery would likely occur earlier in the year, when the yield per fish is lower, meaning that for a ton of catch, there would be more fish caught. Whether this would have a significant effect on the stock is not known; as it would likely occur only in 2007, long-term effects would probably be fairly slight.

5.3.2 Effects on Other Fish Species

This alternative would be likely to provide additional protection to overfished species of rockfish

and to endangered and threatened salmon by preventing an accelerated “race for fish” in 2007. There is likely to be less bycatch of these species than if there were new entry to the fishery in 2007. The fishery is likely to remain stable and well paced such that bycatch will be controlled as it has been through industry cooperation and efforts to share information so that areas of high bycatch will be avoided. There will be less early season fishing, thus lessening the likelihood of high salmon bycatch. To the extent this alternative results in lower rockfish bycatch, there will be less likelihood of an early closure of the whiting fishery and a shift of effort from whiting to other groundfish, so that the pressure on these other stocks will not increase above the status quo level.

5.3.3 Effects on Other Living Marine Resources

This alternative is not expected to result in any impacts on other living marine resources.

5.3.4 Effects on Other Fisheries

To the extent this alternative results in a stable and longer lasting whiting fishery, there is less likelihood of an early shift from whiting fishing to fishing for other groundfish. This means there is less likelihood of additional pressure on these other groundfish fishing sectors, which are already stressed due to stringent controls to ensure that bycatch limits for overfished rockfish are not exceeded. To the extent that the action results in keeping rockfish bycatch within limits, there is less likelihood of excessive rockfish bycatch that would lead to additional controls on other groundfish fishing sectors. Any such additional controls could exacerbate the difficulties associated with current controls that effectively prevent full utilization of healthy groundfish stocks due to bycatch limits.

5.3.5 Economic Effects

This alternative is expected to provide economic benefits to current fishery participants by limiting the potential for an accelerated race for fish and minimizing the potential for disruption to the fishery, other fisheries, and fishing communities from premature season closures. By maintaining current capacity, average revenues per vessel in each sector are not reduced by new entrants. Similarly, total fishing costs are not increased because of new entrants. For companies that have made business decisions and invested in and combined permits to be attached to vessel that can't enter the fishery or transferred a permit to a vessel that can't operate in the fishery as a result of this alternative, this rule provides forms of mitigation. The combined permits can be transferred to their previous state, while transferred permits will be allowed to be transferred to more appropriate vessels.

5.3.6 Effects on Fishery Monitoring and Data Collection

This alternative will assist in maintaining a stable whiting fishery and continue the existing data collection burden. By preventing an accelerated race for fish, it will limit the potential for additional difficulties in monitoring the fishery and obtaining quality data on catch, effort, and bycatch.

5.3.7 Effects on Bycatch

This alternative is expected to result in control of bycatch in the whiting fishery at levels equal to or less than the amount estimated to occur in Table 21. At these levels, bycatch will remain within the limits set for groundfish fisheries overall as long as other fishery sectors are effective in controlling their bycatch as well.

5.3.8 Effects on Habitat

This alternative will not affect habitat in any way.

5.3.9 Effects on Protected Species

This alternative is expected to minimize the risk of excessive bycatch of salmon in the whiting fishery.

5.3.10 Administrative Considerations

This alternative adds no administrative burdens to the management of the whiting or groundfish fisheries.

5.3.11 Consistency with Management Objectives

This alternative meets the management objectives of this action. It will prevent the conservation and management problems that would be expected to occur if there were entry of new vessels into the whiting fishery in 2007. It will provide a period of fishery stability while the Council completes a Groundfish FMP amendment to address whiting fishery fleet capacity into the future.

5.4 Alternatives and Their Impacts

5.4.1 No Action (Alternative 1)

Every assessment of potential management strategies includes a no action baseline against which other alternatives are compared. Under this alternative, NMFS would not take action at this time. This means that any vessel that wished could enter any sector of the Pacific whiting fishery in 2007.

5.4.1.1 Effects on Status of Whiting

Under this alternative, the whiting stock is expected to remain within the levels anticipated in the Council's specification of the 2007 acceptable biological catch and U.S. OY. The fishery would be constrained to the overall whiting OY level in 2007. It is more likely under this alternative that this would result in an increase in the absolute number of fish killed. A greater proportion of the harvest would likely occur earlier in the year, when the yield per fish is lower, meaning that for a ton of catch, there would be more fish caught. Whether this would have a significant effect on the stock is not known; as it would likely occur only in 2007, long-term effects would probably be fairly slight.

5.4.1.2 Effects on Other Fish Species

This alternative could have more adverse impacts on some fish stocks than the proposed action. This is because the "no action" alternative would likely result in more intensive fishing early in the season, less collaboration to avoid areas of high bycatch of overfished rockfish and salmon, and thus higher bycatch levels of those species. In the case of overfished rockfish, the consequences could be dramatic, as overall allowable harvest levels of these stocks are very low and any significant overage could result in a much longer time frame for rebuilding. Even with the low allowable catches in effect, the rebuilding times for some rockfish stocks extend 30-40 years into the future. The impact on salmon would likely be less serious, depending on the particular ESU from which the incidentally caught salmon originated. While many Chinook ESUs are listed, some are more vulnerable than others.

This alternative could result in adverse impacts on some healthy groundfish stocks. This could occur in early closure of the whiting fishery resulted in a shift of more effort directed at healthy stocks, such that the catches of these species increased above current guidelines or limits. This emergency rule would only be in effect for at most one year, and the fishery is very well monitored, so the Council presumably could react to any catch overages reasonably quickly in 2008. Nonetheless, compared to the proposed action, this alternative is less favorable with respect to all groundfish stocks.

5.4.1.3 Effects on Other Living Marine Resources

This alternative would not be expected to have impacts on other living marine resources significantly different from those of the proposed action.

5.4.1.4 Effects on Other Fisheries

This alternative would likely have adverse impacts on other fisheries, and especially other groundfish fishing sectors. If new entry to the whiting fishery were to occur such that there was a “accelerated race for fish” as anticipated, then the whiting fishery likely would close early, due to either early achievement of the whiting quota or early achievement of a rockfish bycatch limit. This would likely result in some effort that would normally be directed at whiting being shifted to other groundfish fishery sectors, increasing the competition in already stressed fishery sectors. Further, if rockfish bycatch limits for the whiting fishery were grossly exceeded, then additional limits on groundfish fishery sectors targeting healthy stocks could be implemented to ensure that the overall catch and mortality of overfished rockfish stocks would not be grossly exceeded. The Council is committed to taking action to rebuild overfished rockfish stocks; if necessary to carry out rebuilding plans, the Council will further restrict sectors taking healthy stocks to ensure that overall rockfish limits are not exceeded.

5.4.1.5 Economic Effects

It is likely that the number of vessels participating in each sector would be increased because of current high prices for whiting products and resulting high ex-vessel prices. As each sector is allocated a specific amount of whiting, new entrants to the fishery would cause average revenues per vessel to be reduced and likely raise the total costs of harvesting as theoretically, the catch per unit of effort, would also be reduced. All sectors would suffer losses, if as a result of new entrants, bycatch rates increase so as to cause an early closure of the fishery.

This alternative, as it could adversely affect other fisheries, would have adverse economic effects overall as well. The adverse effects would be felt by West Coast-based fishers who would face increasing competition for catch in the shoreside delivery sector; by West Coast-based fishers in the whiting fleet who do not have the ability to relocate to other areas or to shift to other groundfish sectors except at high cost; by fishers in other groundfish fishing sectors who would be faced with greater competition for catches in healthy stocks if there were shifts of effort from whiting to those other stocks; by fishers in any groundfish fishing sectors that would have to be further limited in fishing for healthy stocks because of overages of rockfish bycatch in the whiting fishery; and by coastal processors who would have less product to work with and/or a shorter season in which to process whiting, or who would have to pay higher prices to obtain supplies of whiting from the fleet. The magnitude of such impacts cannot be determined due to the inability to predict how fishers and processors will react to different situations and how prices or costs will change in the future with and without the proposed action. However, all other things being equal, the no action alternative will have adverse economic effects compared to the proposed action.

5.4.1.6 Effects on Fishery Monitoring and Data Collection

This alternative could result in greater difficulty in administration of the whiting fishery monitoring program and associated measures. With no limit on new entry, there could be more

vessels engaged in fishing early in the season, increasing the burden for at-sea observations as well as shoreside monitoring and sampling of catches. There could be an increase in the amount of data that have to be validated and processed in a shorter period of time, raising the risk of inability to detect or predict accurately the anticipated date(s) on which whiting limits might be reached, or when rockfish bycatch limits will be reached or the ocean salmon conservation zone has to be implemented. Given the overfished condition of several rockfish stocks, it will be important to err on the side of conservation, which could mean acting to close a fishery prematurely rather than allow a bycatch limit to be exceeded. In sum, the pressure on data collection under this alternative will likely be much greater than under the proposed action.

5.4.1.7 Effects on Bycatch

This alternative is more likely to result in higher bycatch levels than the proposed action.

5.4.1.8 Effects on Habitat

This alternative would not be expected to have an impact on habitat different from the impact of the proposed action.

5.4.1.9 Effects on Protected Species

This alternative would be more likely than the proposed action to result in adverse effects on protected species of salmon. New entry would result in more intensive early season fishing, when salmon bycatch is known to be more frequent than later in the summer and early fall. Further, with new entry there would likely be less collaboration among industry participants to communicate and avoid areas of high bycatch. While NMFS can implement the ocean salmon conservation zone, the potential for bycatch to reach or exceed the incidental take statement limit is higher under this alternative than under the proposed action. At the worst, this could result in issuance of a new biological opinion and incidental take statement that would lead to tighter fishery controls to protect endangered and threatened salmon.

5.4.1.10 Administrative Considerations

This alternative would be somewhat more difficult to administer than the proposed action. New entry would lead to more intensive fishing for a shorter period of time, putting stress on the fishery monitoring and management agencies and staff. The fishery would be less stable and the potential for having to take more inseason management actions would be higher.

5.4.1.11 Consistency with Management Objectives (see section 2.2)

This alternative would not meet all the management objectives.

5.4.2 Limit Application of the New Entry Prohibition to the Shoreside Sector and Catcher Processor Sector.

Under this alternative, the emergency rule would only prohibit entry of new vessels into the shoreside harvesting or catcher-processor sector of the Pacific whiting fishery in 2007. There would be no limit on entry to the mothership sector of the Pacific whiting fishery in 2007.

5.4.2.1 Effects on Status of Whiting

This alternative would be expected to have the same impacts on whiting as the proposed action. Whiting catch is limited by an overall quota and by sector quotas in the directed fishery. The stock would be expected to remain in the range discussed in NMFS 2007.

5.4.2.2 Effects on Other Fish Species

This alternative would be expected to have a somewhat higher risk than the proposed action on the status of other fish species. There would be a higher probability of heavier whiting fishing early in the season and less care being taken to avoid bycatch, resulting in excessive bycatch of rockfish and salmon, adversely affecting those stocks. If early closure of the whiting fishery due to achievement of the whiting quota or of bycatch caps were to occur, then there could be further shift of fishing effort to other sectors, increasing the potential for catches of other species in excess of their limits. Such impacts would likely be short-term as the emergency rule will be in effect for a maximum of one year.

5.4.2.3 Effects on Other Living Marine Resources

This alternative would be expected to have the same effects (i.e., minimal impacts) on other living marine resources in the area of the action.

5.4.2.4 Effects on Other Fisheries

This alternative would have a higher probability than the proposed action of adverse effects on other fisheries. Excessive rockfish catch in the whiting fishery could result in early closure of the whiting fishery, pushing some whiting fishers into other groundfish fishing sectors that are already under severe pressure. At worst, excessive rockfish catch in the whiting fishery could lead to imposition of additional restriction of groundfish fishing for healthy stocks, further pressuring

groundfish fishery interests on the West Coast.

5.4.2.5 Economic Effects

This alternative would be expected to have different economic effects from the proposed action. First, any party that invested in groundfish permits in prior years in anticipation of entry to the whiting fishery in 2007 would have some opportunity to do so. However, any who had invested in prior years with the intent of engaging in fishing (either for shoreside delivery or as a catcher-processor) in 2007 would not have the opportunity to do so. Such parties could, however, mitigate any economic losses by disaggregating any limited entry permits obtained and aggregated as part of the strategy for entering the fishery. Second, parties that meet the participation eligibility requirements for fishing in 2007 would be expected to potentially benefit if the entry of additional mothership businesses were to occur, adding to the competing parties to buy their catch. Existing mothership businesses and shoreside plants, on the other hand, could face increasing competition and potentially higher costs or lower supplies of fish for processing in 2007. If shoreside processors had to pay higher prices for fish, they might have to cut other costs (possibly including labor) or raise product prices to their buyers to maintain their margins, or accept lower profits. It is not possible to predict what the outcome would actually be. In the short-term, this would not likely be a major issue for most processors. Third, if entry of additional mothership operations led to increased competition for the available quota, there could be a higher risk of heavier fishing early in the year, with less yield and lower product quality and prices for fishers; of early closure of the whiting fishery (especially the mothership sector) due to early achievement of the whiting quota and/or of rockfish bycatch limits, which would lead to a shorter fishing season for at least some vessels; of added restrictions on other groundfish fishing sectors if excessive bycatch of rockfish were to occur; and of added competition in remaining open sectors of the groundfish fishery if the whiting season were to close early.

5.4.2.6 Effects on Fishery Monitoring and Data Collection

Unlike the proposed action, this alternative could have some adverse effects on data collection. If new entry of mothership operations led to more intensive early season fishing, this could result in greater demands on processing and validating a larger amount of catch and bycatch data in a short period of time than under the proposed action. This could cause a higher risk of inappropriate or delayed action due to gaps in data or use of incorrect data.

5.4.2.7 Effects on Bycatch

This alternative would be expected to result in a higher risk than the proposed action of excessive bycatch of overfished rockfish and salmon. New entry into the mothership sector could result in greater pressure for intensive early season fishing, in turn leading to higher rockfish bycatch and salmonid bycatch.

5.4.2.8 Effects on Habitat

This alternative would be expected to have the same impact (negligible) on habitat as the proposed action.

5.4.2.9 Effects on Protected Species

This alternative would have a higher risk of adverse effects on endangered and threatened salmon. It is known that the salmonid bycatch rate early in the season is much higher than later in the summer and early fall. New entry to the mothership sector would be expected to result in a higher probability of a “accelerated race for fish” such that there would be more fishing early in the season. The experience in 2005 demonstrates that the incidental take allowance can be exceeded even under current fishing patterns. While NMFS can implement the ocean salmon conservation zone (OSCZ) to deal with high salmon bycatch levels, there would be a higher risk of late implementation of this measure if the fishery intensity early in the season led to such a flood of data and observations that data evaluation and validation would be hampered and the implementation of OSCZ would not occur until after the take limit had been exceeded. Whether this would be a serious problem for any specific ESU of salmon is not known; however, it is possible that there could be more serious effects than under the proposed alternative.

No other protected species would be affected differently under this alternative than under the proposed action.

5.4.2.10 Administrative Considerations

This alternative would probably have somewhat higher administrative costs than the proposed action. If there were new entry to the mothership sector leading to more intensive fishing early in the season, then NMFS and the states would be forced to devote more resources to monitoring the fishery more closely at that time to ensure that timely action could be taken if the whiting quota (or sector quota) were being approached quickly or if rockfish or salmonid bycatch limits were being approached. There would be more pressure on the administration of the groundfish and whiting fishery management program, at least in 2007.

5.4.2.11 Consistency with Management Objectives (see section 2.2)

This alternative would be less likely to fully achieve the objectives of the proposed action.

5.5 Relationship to the Magnuson-Stevens Act and other Applicable Laws

Final determinations of consistency of the proposed action and associated documentation with requirements of the Magnuson-Stevens Act and other applicable law have not been made. However, this section assesses the likely determinations based on current information.

5.5.1 Magnuson-Stevens Act

The Groundfish FMP as originally prepared was determined to be consistent with the Magnuson Fishery Conservation and Management Act, and all amendments have been similarly consistent with that act as amended. Available information suggests that this amendment would also be found consistent for the following reasons.

5.5.1.1 National Standards for Fishery Conservation and Management

Section 301 of the Magnuson-Stevens Act establishes ten National Standards for fishery conservation and management. FMPs and their associated regulations must be consistent with the National Standards. The Council's assessment of the degree of consistency of the proposed actions relative with the national standards is discussed below.

Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States.

The proposed action will maintain the status quo for the whiting fishery and thus maintain the current program that prevents overfishing of the stock. The proposed action also should help prevent conditions that would risk the rebuilding of overfished rockfish stocks. The proposed action will continue to allow the whiting and other groundfish fishing sectors to achieve optimum yield in 2007.

Conservation and management measures shall be based upon the best scientific information available.

The information in this document and appendices constitutes the best scientific information available about whiting and associated groundfish resources.

To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The proposed action is based on the U.S.-Canada agreement to manage the whiting fishery as a stock throughout its range. It also is a fundamental element in the Pacific Council's groundfish fishery management program which is intended to manage interrelated stocks as a unit to the extent practicable.

Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

The proposed action would not discriminate between residents of different States as the prohibition of new entry to the whiting fishery in 2007 would apply to any and all U.S. vessels.

Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

The proposed action would prohibit new entry to the whiting fishery in 2007, supporting a stable and efficient whiting fishery in that year while the Council develops a long-term whiting capacity management program.

Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

The proposed action to prohibit new entry to the whiting fishery in 2007 takes into account recent unexpected contingencies (see section 1.2) that occurred in this fishery in late 2006 and early 2007.

Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

The preliminary preferred alternative would not impose any costs on any existing fisheries. It would be consistent with but would not duplicate any existing State regulations and requirements.

Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

To the extent the preliminary preferred alternative would help maintain the stocks of harvested fish species, it would contribute to maintenance of fishing communities and prevent future adverse impacts on such communities.

Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

The proposed action is intended to prevent conditions that would result in excessive bycatch, consistent with the Council's bycatch reduction and mitigation program for the groundfish fishery.

Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

The proposed action, to the extent it results in a stable and well-paced fishery, would have minimal risk of any adverse effects in terms of the safety of human life at sea.

5.5.1.2 Consistency with Agency Guidelines on Emergency Regulations

Evaluation of Emergency Rule Request Against Agency Guidelines

NMFS has considered the Council's request and the information on which the request is based. NMFS considered also the information in the Council's final environmental impact statement (FEIS) for its biennial harvest limits and conservation and management measures. This includes extensive information on the status of stocks and the economic status of the fisheries and the dependency of communities which are dependent on those fisheries. NMFS has evaluated the proposal against its guidelines for the use of emergency rules, published at 62FR44421 (August 21, 1997), which sets forth criteria that must be met to warrant emergency rules. Each of the criteria is discussed below.

1. The situation results from recent, unforeseen events or recently discovered circumstances

Two years ago, it could not have been foreseen that there would be the confluence of events and conditions that have made Pacific whiting a much more important component of the West Coast groundfish fisheries as well as a potential target of Alaska fishers. As noted earlier, in 2005 and 2006, ex-vessel prices for whiting increased dramatically, and the industry projection is that prices will continue to rise in 2007. The U.S. OY for whiting in 2007 is down 10 percent from the 2006 level, so the supply of whiting for the U.S. industry will lead to increased competition even without new entry. The Council action in March 2007 to further restrict non-whiting fishing due to higher than anticipated rockfish bycatch rates puts new pressure on those other sectors and could promote shifting of effort to whiting if no action were taken to prevent it. Finally, while the OY for Alaska pollock is reduced, rationalization of the Alaska pollock fishery allows many vessels that normally fish in Alaska to set their own schedules for catching a share of the harvest. The pollock fishery would be available later in the year, if desired; these vessels (many of which

have or could obtain West Coast trawl limited entry permits) could choose to fish for Pacific whiting early in the year and, when the whiting quota was reached, shift operations to Alaska to fish for pollock. These vessels had the capability (i.e., equipment and gear) to fish for whiting with little or no added cost. Taken together, these new and unforeseen conditions indicate that there would be a high likelihood of new entry to the whiting fishery in 2007 if no action were taken. This would result in unacceptably high risk of conservation and management problems.

2. The situation presents serious conservation or management problems in the fishery

As noted, the whiting stock is thoroughly monitored and assessed annually, and the results are generally accepted as presenting an accurate assessment of the stock. The U.S. and Canada have agreed to a Treaty for joint management of the stock and for sharing the harvestable surplus.

Given the Council's relatively conservative harvest strategy for whiting, there is little reason for serious conservation concern about the current and future condition of the Pacific whiting stock. However, it is also generally true that the more participants in a fishery managed under quotas, the greater the likelihood that conservation will become a concern, and especially in the case where the fishery is still subject to new entry. Quite simply, new entry encourages more intensive fishing as soon as a fishery is open as participants fear they will not catch a fair share of the available fish if they do not fish early. In turn there is greater pressure to fish hard with possibly less regard for minimizing waste or bycatch. This is especially true in the whiting fishery, in which industry cooperation has been a vital element in controlling the pace of the fishery and in sharing information so that participants would avoid areas of high bycatch and thus help each other extend the season as long as possible. As noted above, this cooperation would be less likely to continue if new entrants were allowed into the fishery without limit. A breakdown in cooperation and communication would be likely to result in an accelerated race for fish and the consequent unacceptably high risk of excessive bycatch and fishery disruptions. If fishing is conducted more intensely, there is likely to be less care to avoid bycatch and more likelihood of "disaster" tows with extremely high bycatch levels. This would be especially true if the new entrants were high capacity vessels with a need to fill up fast to cover costs, or if the vessel were captained by a person not familiar with the fishery and unable to adjust to high bycatch rates. This could lead to early closure of the whiting fishery as bycatch limits are controlling; it is important to note that if a bycatch limit is reached, even if only by one sector, fishing by all sectors of the whiting fishery must cease. A wide open fishery could well result in closure of the whiting fishery before the annual quota is reached, resulting in serious loss of income and employment both to fishers and to processing facilities. Accelerated fishing for Pacific whiting in the spring is also likely to result in incidental catches of salmon in excess of the incidental take allowances under biological opinions issued under the ESA. Also, as pointed out above, the yield per fish is greater later in the season than earlier, so pressure to fish early is likely to result in less usable and less valuable product.

In summary, allowing new entry to the whiting fishery in 2007 is likely to result in serious

conservation and management problems.

3. The situation can be addressed through emergency regulations for which the immediate benefits outweigh the value of advance notice, public comment and deliberative consideration of the impacts on participants to the same extent as would be expected under the normal rulemaking process.

The benefit of immediate action is that it provides for greater stability in the 2007 Pacific whiting fishery while the Council completes action on the amendment to manage the fishery over the long term, possibly including conservation and management measures to deal with AFA impacts as well as the impacts of otherwise unlimited entry into the whiting fishery. There will be firm pressure to act quickly but the Council can use its established planning process and the Secretary can use normal notice and comment rulemaking procedures for implementing the long-term strategy and measures. There is little cost as only new entry would be prohibited; any vessels that participated prior between January 1, 1997, and December 31, 2006, inclusive, would be eligible to participate in 2007. In some fishers' view, the fishery is already overcapitalized, but at least there would not be further overcapacity due to additional new entry to the fishery for short-term gain at the expense of those with a long-standing interest in the fishery.

It is known that at least one party invested in 2006 by buying limited entry permits and aggregating them for application of a single permit on a single vessel intended to participate in the whiting fishery in 2007. There may be other such situations. The regulations for the limited entry permit program currently do not allow a permit established through aggregation of multiple permits to be subsequently disaggregated. However, to alleviate financial harm to any who in good faith made investments as described, the emergency rule provides for an exception from the prohibition against disaggregation of permits. The investor(s) may then be able to recapture at least a portion of the investment that might otherwise be lost. In addition, one party is known to have tried to register a permit for use on a "prohibited" vessel; the rule includes a provision allowing such parties to register their permits for alternate, eligible vessels in such cases.

As noted above, NMFS has established that 1997 is the initial sector participation year for parties to use in determining eligibility for a particular sector of the whiting fishery in 2007. NMFS will use state landings data, Pacific Fishery Information Network (PacFIN) data, observer, NORPAC industry reports, and other data as appropriate to determine the sector-specific eligibility of vessels as needed.

5.5.3 Treaty Indian Fishing Rights

Tribal representatives participated in the determinations of U.S. OY for whiting and allocations for 2007 and in the discussion that resulted in the Council request. The Council action was made in open deliberations with Tribal representation and there is no reason to expect objection to this action.

5.5.4 Bycatch Reduction and Reporting

As noted above, the proposed action is intended to prevent excessive bycatch of overfished rockfish and salmon. The proposed action is consistent with the Council's approved Groundfish FMP amendment addressing bycatch reduction and reporting under the Magnuson-Stevens Act.

5.6 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) requires a determination that a proposed management measure has no effect on the land, water uses, or natural resources of the coast zone, or is consistent to the maximum extent practicable with an affected state's approved coastal zone management program. A copy of this document will be submitted to the State coastal zone management agencies in Washington, Oregon and California with a request for consistency determinations. It is noted that the coastal states all voted in favor of the Council's request that has led to the proposed action. Therefore, it is expected that the States will confirm consistency with their coastal zone management plans

5.7 Endangered Species Act

NMFS issued Biological Opinions under the ESA on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999 pertaining to the effects of the Pacific Coast groundfish FMP fisheries on Chinook salmon (Puget Sound, Snake River spring/summer, Snake River fall, upper Columbia River spring, lower Columbia River, upper Willamette River, Sacramento River winter, Central Valley spring, California coastal), coho salmon (Central California coastal, southern Oregon/northern California coastal, Oregon coastal), chum salmon (Hood Canal summer, Columbia River), sockeye salmon (Snake River, Ozette Lake), and steelhead (upper, middle and lower Columbia River, Snake River Basin, upper Willamette River, central California coast, California Central Valley, south/central California, northern California, southern California). During the 2005 Pacific whiting season, the whiting fisheries exceeded the 11,000 fish Chinook bycatch amount specified for the Pacific whiting fishery in the December 19, 1999 Biological Opinion. Exceeding 11,000 fish bycatch amount triggers reinitiation. NMFS prepared a Supplemental Biological Opinion dated March 11, 2006, which addressed salmon take in both the Pacific whiting and midwater trawl and groundfish bottom trawl fisheries. The biological opinions, including the March 2006 Supplemental Biological Opinion, have concluded that implementation of the FMP for the Pacific Coast groundfish fishery is not expected to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of NMFS, or result in the destruction or adverse modification of critical habitat. This action is within the scope of those consultations.

Lower Columbia River coho (70 FR 37160, June 28, 2005) and the Southern Distinct Population Segment (DPS) of green sturgeon (71 FR 17757, April 7, 2006) were recently listed as threatened under the ESA. As a consequence, NMFS has reinitiated its Section 7 consultation on the PFMC's Groundfish FMP. After reviewing the available information, NMFS concluded that, in keeping with Section 7(a)(2) of the ESA, allowing the fishery to continue under Amendment 16-4 to the FMP and the 2007-2008 groundfish harvest specifications and management measures final rule would not result in any irreversible or irretrievable commitment of resources that would have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures. The fishery under the emergency rule is consistent with those activities and thus the conclusion remains accurate.

5.8 Marine Mammal Protection Act (MMPA)

The proposed action is not expected to have any impact on any species listed under the MMPA.

5.9 Regulatory Flexibility Act (RFA)

The proposed action is being implemented under the authority for emergency action under the Magnuson-Stevens Act, without opportunity for public comment. Therefore, the RFA does not apply.

5.10 Executive Order 12866 - Regulatory Impact Review (RIR)

EO 12866 Regulatory Planning and Review established guidelines for promulgating new regulations and reviewing existing regulations. The EO covers a variety of regulatory policy considerations and established procedural requirements for analysis of the benefits and costs or regulatory actions. Based on the discussion in Section 5.4, and the information reviewed in Sections 3 and 4, this action, is unlikely to be significant under E.O. 12866. This action will not have a cumulative effect on the economy of \$100 million or more, nor will it result in a major increase in costs to consumers, industries, government agencies, or geographical regions. No significant adverse impacts are anticipated on competition, employment, investments, productivity, innovation, or competitiveness of U.S.-based enterprises. As this is an emergency rule, if there are negative effects, they are only temporary until more formal regulations are established. The proposed action would not adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs or the environment, public health or safety, or state, local, or tribal governments or communities. It would not create a serious inconsistency or otherwise interfere with an action taken or planned by another agency. It would not materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof. It would not raise novel legal or policy issues arising out of legal mandates, the Administration's priorities, or the principles set forth in E.O. 12866.

5.11 National Environmental Policy Act (NEPA)

This document has been prepared as a combined environmental assessment and Regulatory Impact Review. As required by NEPA, this document identifies management problems and

issues, sets forth alternatives to address those problems and meet objectives of management, and evaluates and compares the effects and effectiveness of the alternatives. Other specific analytical requirements of NEPA are set out in guidelines or administrative directives by NOAA and the Council on Environmental Quality and are addressed in the following sections.

5.11.1 Finding of No Significant Impact of the Proposed Action

FINDING OF NO SIGNIFICANT IMPACT FOR AN EMERGENCY RULE TO PROHIBIT NEW ENTRY TO THE PACIFIC WHITING FISHERY IN 2007

National Marine Fisheries Service

National Oceanic and Atmospheric Administration Administrative Order 216-6 (NAO 216-6) (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality regulations at 40 C.F.R. '1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant in making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

- 1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?

Response: The proposed action is not expected to jeopardize the sustainability of any target species. The whiting fishery harvest will be limited by the specifications made under the Groundfish FMP to prevent overfishing. The whiting stock is expected to remain well above the overfishing threshold set in the FMP.

- 2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?

Response: The proposed action is not expected to jeopardize the sustainability of any non-target species. These non-target species include a number of overfished rockfish managed under the Groundfish FMP as well as species managed under other Pacific Council FMPs. Some species listed under the Endangered Species Act are also taken in the fishery. However, this action should maintain a steady fishery in 2007, with bycatch of overfished rockfish within established limits, thereby preventing adverse impacts on those stocks. Incidental takes of salmon are expected to be within the limits set in an Incidental Take Statement under the ESA, and thus will not jeopardize the sustainability of those species. Bycatch of other species is not expected to

be at levels causing any jeopardy to their sustainability.

- 3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential habitat as defined under the Magnuson-Stevens Act and identified in FMPs?

Response: The proposed action is not expected to cause substantial damage to the ocean and coastal habitats or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs. The whiting fishery occurs in the mid-water column and it is not likely to lead to substantial physical, chemical, or biological alterations of the habitats of any fish or non-fish species.

- 4) Can the proposed action reasonably be expected to have a substantial adverse impact on public health or safety?

Response: The proposed action is not expected to have a substantial adverse effect on public health or safety. It will prevent new entry to the whiting fishery and, to the extent practicable, maintain stability in that fishery in 2007, contributing to safe fishing.

- 5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?

Response: The proposed action is not expected to have any effect on any marine mammal or other species protected under the ESA and their critical habitat or of species protected under the MMPA. The action will prevent an accelerated race for fish, which could have led to adverse impacts on endangered and threatened species of salmon. The action will not affect the habitat of any listed species.

- 6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

Response: The proposed action is expected to contribute to maintenance of biodiversity and ecosystem function off the West Coast. By preventing excessive bycatch of overfished rockfish, the action will provide protection against adverse impacts on biodiversity and ecosystem function.

- 7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

Response: The proposed action is not expected to have significant economic effects associated with physical environmental effects. To the extent there are economic effects, they

should be beneficial for current West Coast fishers targeting groundfish as the action will limit the risk of additional entry to overcapitalized fisheries.

8) Are the effects on the quality of the human environment likely to be highly controversial?

Response: The effects of the proposed action are not likely to be highly controversial. There is broad support within the Pacific Council and the fishing community as well as the conservation community for action to maintain the status quo in the whiting fishery for 2007 while the Council develops its long-term program to manage the trawl sectors of the Pacific groundfish. The action was developed in response to a request from the Council for action to prevent conservation and management problems likely if no action were taken.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

Response: There are not unique areas in the exclusive economic zone, which is the area in which the fishery occurs. Therefore, the proposed action will not result in substantial impacts to unique areas.

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

Response: The effects on the human environment are uncertain due to the inherent variability of the marine environment and of the whiting resource. However, this action is limited to a one-year time frame and no irreversible commitments of resources are made. There are no unique or unknown risks.

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

Response: The proposed action is not expected to result in any significant cumulative adverse effects. Because the proposed action would not result in direct or indirect adverse effects, there likewise would be no incremental or cumulative effects to any resource of concern.

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

Response: There are no districts, sites, highways, structures, or objects within the EEZ that are listed in or eligible for listing in the National Register of Historic Places, nor are there

significant scientific, cultural or historical resources that would be affected by the proposed action.

- 13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

Response: The proposed action would not result in the introduction or spread of nonindigenous species.

- 14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

Response: The proposed action is not likely to establish a precedent for future actions with significant effects, not does it represent a decision in principle about a future consideration.

- 15) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

Response: This action is not likely to impose or cause a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

- 16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target or non-target species?

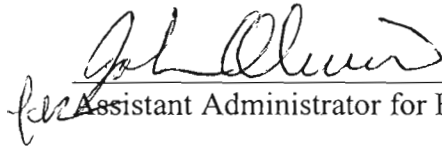
Response: The proposed action is not expected to result in cumulative adverse effects that could have a substantial effect on the target or non-target species.

REFERENCES:

NMFS 2007. Environmental Assessment on the Emergency Rule to Prohibit New Entry to the Pacific Whiting Fishery in 2007.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for the Emergency Rule to Prohibit New Entry to the Pacific Whiting Fishery in 2007, it is hereby determined that the approval by NMFS of this rule will not significantly impact the quality of the human environment as described above and in the Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environmental Impact Statement for this action is not necessary.


Assistant Administrator for Fisheries, NOAA

5-4-07
Date

5.11.2 Cumulative Impacts

Cumulative effects would occur when direct and indirect effects of the alternatives combine with effects of factors exogenous to the West Coast marine environment to produce a net effect different than the separate effects or the exogenous factors. These net effects can be beneficial or adverse. Principles of cumulative effects analysis identified by the Council on Environmental Quality have been applied in completing the cumulative effects analysis for this EA.

5.11.2.1 Biological Impacts

This action will not result in cumulatively significant impacts on the environment. The emergency rule, which has a maximum term of 366 days assuming extension under the Magnuson-Stevens Act, is not expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species, based on historical and predicted fishing effort and the condition of these stocks. There will be continuation of the status quo, and with the short term effectiveness of the action, and in combination with the regulations governing whiting fishing and groundfish fishing under the Groundfish FMP, there will be little risk that exogenous factors will give rise to cumulative effects that are different from the effects of this action.

5.11.2.2 Economic Impacts

5.11.2.2.1 Exogenous Factors

Exogenous factors that might contribute to cumulative effects are:

Increased world demand for whiting and products

Lack of whiting to meet world demand due to collapse of whiting or substitutes

Fuel costs that promote greater fishing in domestic waters

5.11.2.2.2 Cumulative Effects

Given the limited duration of the proposed action, there is little likelihood that any of the potential exogenous factors will give rise to cumulative effects that are different from the projected effects of the proposed action. While there is anticipated increased demand for whiting, the proposed action will ensure that fishermen who have been displaced from other fishing activities will not be able to turn to whiting as an alternative. There is little risk of a lack of whiting to meet demand because of a collapse of the whiting stock; the Council management program is quite conservative with respect to the whiting quota and the probability of overfishing. Similarly, the cooperative program with Canada provides protection against overfishing. The collapse of substitute stocks would not be expected to result in shifts to whiting fishing due to this proposed action. Changes in fuel costs would not be expected to result in shift of effort from other fishing activities to whiting as the proposed action will prevent new entry and maintain the status quo for the fishery for 2007.

5.11.2.3 Social Impacts

5.11.2.3.1 Exogenous Factors

Two major exogenous factors were identified as having the potential to contribute to cumulative social impacts:

Fishermen's options for switching fisheries or relocating effort, and

Economic climate.

5.11.2.3.2 Options for Switching or Relocation

This action will limit the possibility for switching fisheries or relocating fishing effort to whiting and therefore will limit the potential for adverse cumulative social effects. With a stable whiting fishery, there is less risk of early closure of the fishery, shifts of effort from whiting to other groundfish fishing sectors, dislocation of shoreside businesses, or other adverse effects. There is also less risk of having to impose more severe controls on other groundfish fishing sectors to respond to excessive bycatch of overfished rockfish.

5.11.2.4 Economic Climate

Unemployment in West Coast ports has been high in recent years due in large part to fishery cutbacks, especially in groundfish fisheries, for which a disaster determination was made by the Secretary of Commerce in 2000. There also have been declines in timber and other natural resource using industries along the Pacific Coast. Many fishers have been eager to explore new

fishing opportunities, but such opportunities have been rare. Limited entry at both the federal and state levels has greatly reduced the ability of fishers to shift from one fishery to another. This has in many communities caused significant social stress. The proposed action is intended to prevent conditions that would worsen the economic climate and have major significance for cumulative social impacts.

5.11.3 Controversy Regarding Environmental Effects

There is no known controversy with respect to environmental effects of the proposed action. There is controversy about the extent to which there is sufficient risk of serious environmental problems under the no action alternative, such that emergency action is warranted under the Magnuson-Stevens Act. There is considerable support for the action among fishers and industry representatives on the West Coast, who are concerned that failure to act will adversely affect overfished rockfish species and salmon. It is noted that this is only a one-year action (maximum) with no irreversible commitments of resources. However, those who oppose action argue that there is little or no environmental risk due to the other conservation and management measures and fishery controls in place, and that allowing new entry in the next year is not necessary to ensure protection of environmental resources. Public comments have been received to date both supporting and opposing the proposed action.

5.12 Paperwork Reduction Act (PRA)

The proposed action would not impose any new collection-of-information requirements that would be subject to approval by the Office of Management and Budget (OMB), pursuant to the PRA.

5.13 Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act does not apply in the EEZ and this action would not be expected to affect any species under that act.

5.14 Environmental Justice

The proposed action will have no impacts or implications in terms of environmental justice. As noted in 4.11.2.7.4, however, it is possible that not restricting entry to the whiting fishery could result in adverse effects on other fisheries. If so, this could exacerbate problems arising from declines that have already occurred in other groundfish fishery sectors (e.g., flatfish trawl fishery and non-trawl fisheries for groundfish), and this would most likely have greater effect on fishermen who are less educated and have fewer employment options. There also could be adverse impacts on processors, whose employees would typically be persons with low educational levels and thus low incomes, and who would have few employment alternatives.

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7.0 AGENCIES AND ORGANIZATIONS CONSULTED

Washington Department of Fish and Wildlife
Oregon Department of Fish and Wildlife
California Department of Fish and Game
State Coastal Zone Management Agencies
Pacific Fishery Management Council
Commercial Fishing Industry Organizations and Associations
Commercial Fishermen
Ocean Recreational Fishermen

8.0 ABBREVIATIONS AND ACRONYMS

CFR	Code of Federal Regulations
CZMA	Coastal Zone Management Act
DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EO	Executive Order
ESA	Endangered Species Act
FMP	Pacific Groundfish Fishery Management Plan
FR	Federal Register
HAPC	Habitat Area of Particular Concern
MMPA	Marine Mammal Protection Act
MSST	Minimum Stock Size Threshold
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
PRA	Paperwork Reduction Act
RIR	Regulatory Impact Review
RFA	Regulatory Flexibility Act